FIG.1

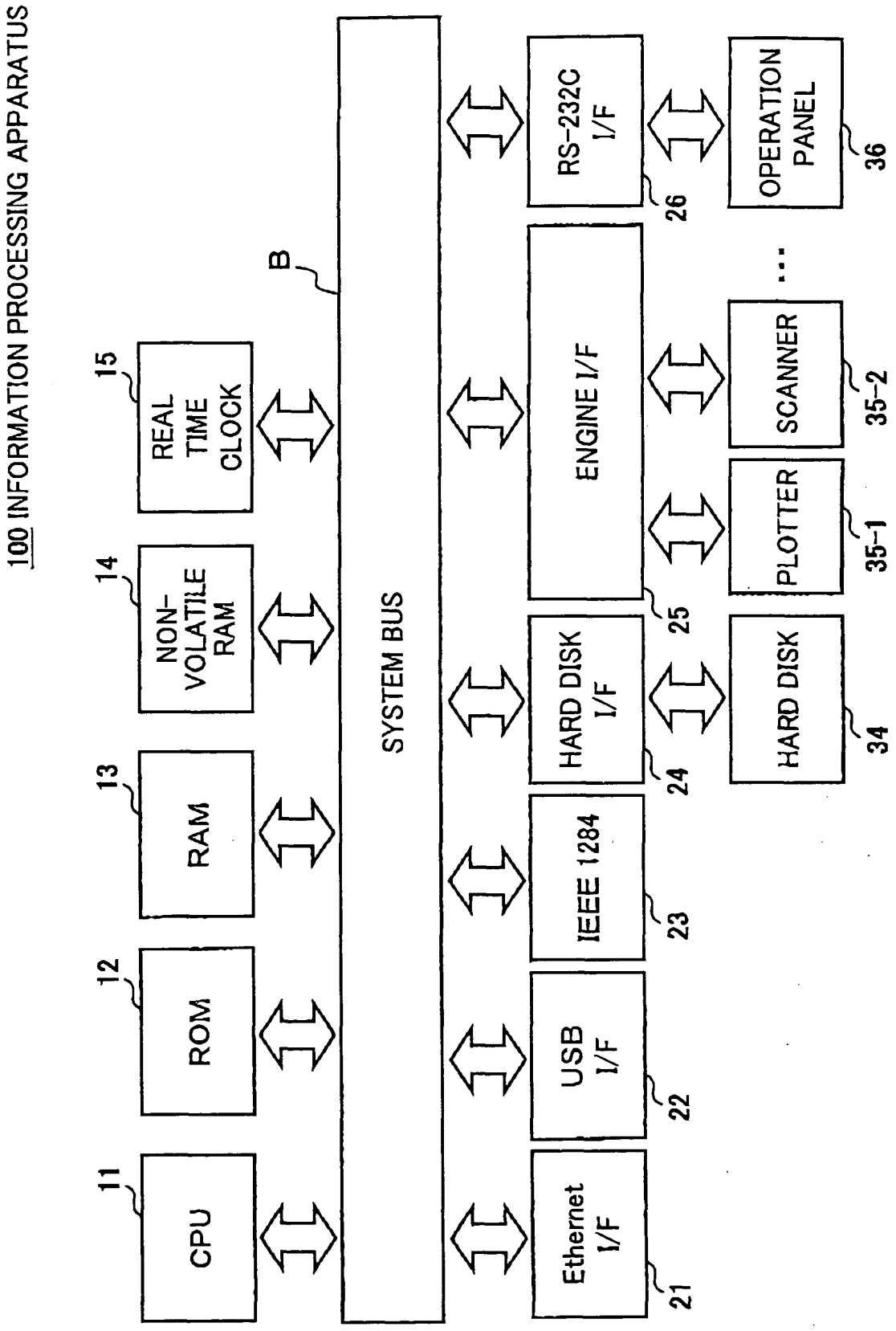

100 INFORMATION PROCESSING APPARATUS
CPU
11
ROM
12
RAM
13
NON-VOLATILE RAM
14
REAL TIME CLOCK
15
SYSTEM BUS
B
Ethernet I/F
21
USB I/F
22
IEEE 1284
23
HARD DISK I/F
24
ENGINE I/F
25
RS-232C I/F
26
HARD DISK
34
PLOTTER
35-1
SCANNER
35-2
OPERATION PANEL
36

FIG.2

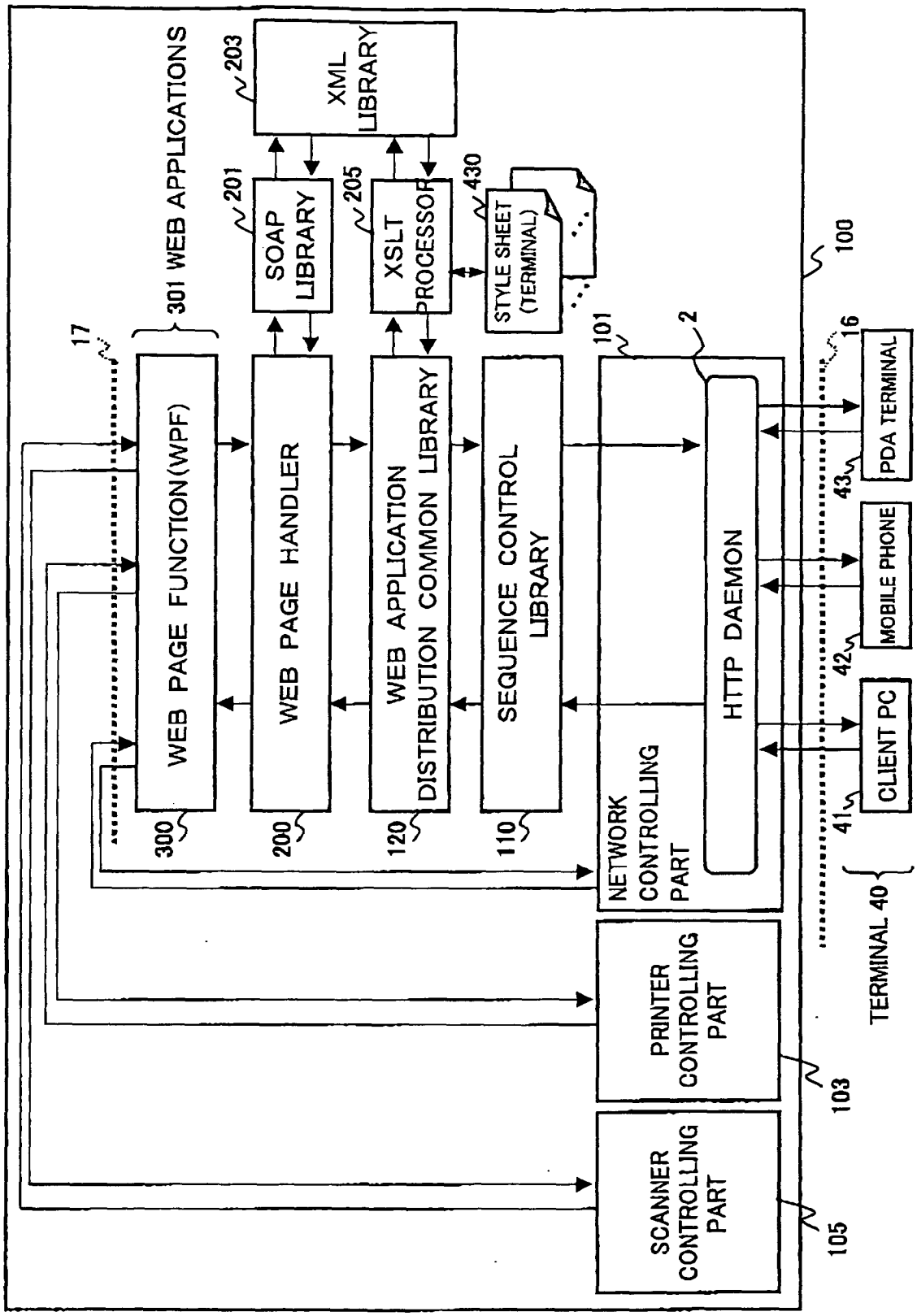

100
301 WEB APPLICATIONS
17
WEB PAGE FUNCTION(WPF)
300
203
XML LIBRARY
201
SOAP LIBRARY
205
XSLT PROCESSOR
430
STYLE SHEET (TERMINAL)
WEB PAGE HANDLER
200
WEB APPLICATION DISTRIBUTION COMMON LIBRARY
120
SEQUENCE CONTROL LIBRARY
110
101
2
NETWORK CONTROLLING PART
HTTP DAEMON
16
PDA TERMINAL
43
MOBILE PHONE
42
CLIENT PC
41
TERMINAL 40
PRINTER CONTROLLING PART
103
SCANNER CONTROLLING PART
105

FIG.3

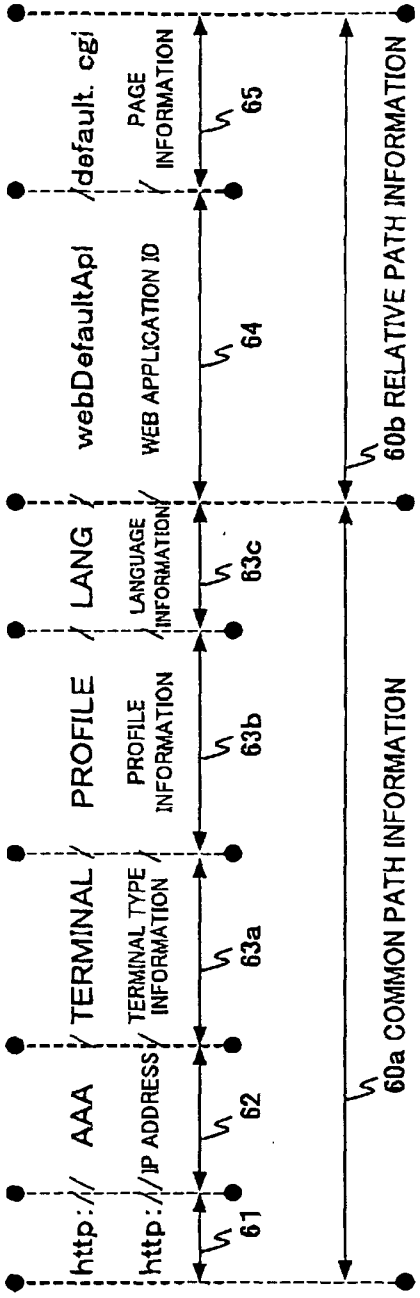

http://
AAA
IP ADDRESS
61
62
TERMINAL
TERMINAL TYPE INFORMATION
63a
PROFILE
PROFILE INFORMATION
63b
LANG
LANGUAGE INFORMATION
63c
webDefaultApl
WEB APPLICATION ID
64
default. cgi
PAGE INFORMATION
65
60a COMMON PATH INFORMATION
60b RELATIVE PATH INFORMATION

FIG.4

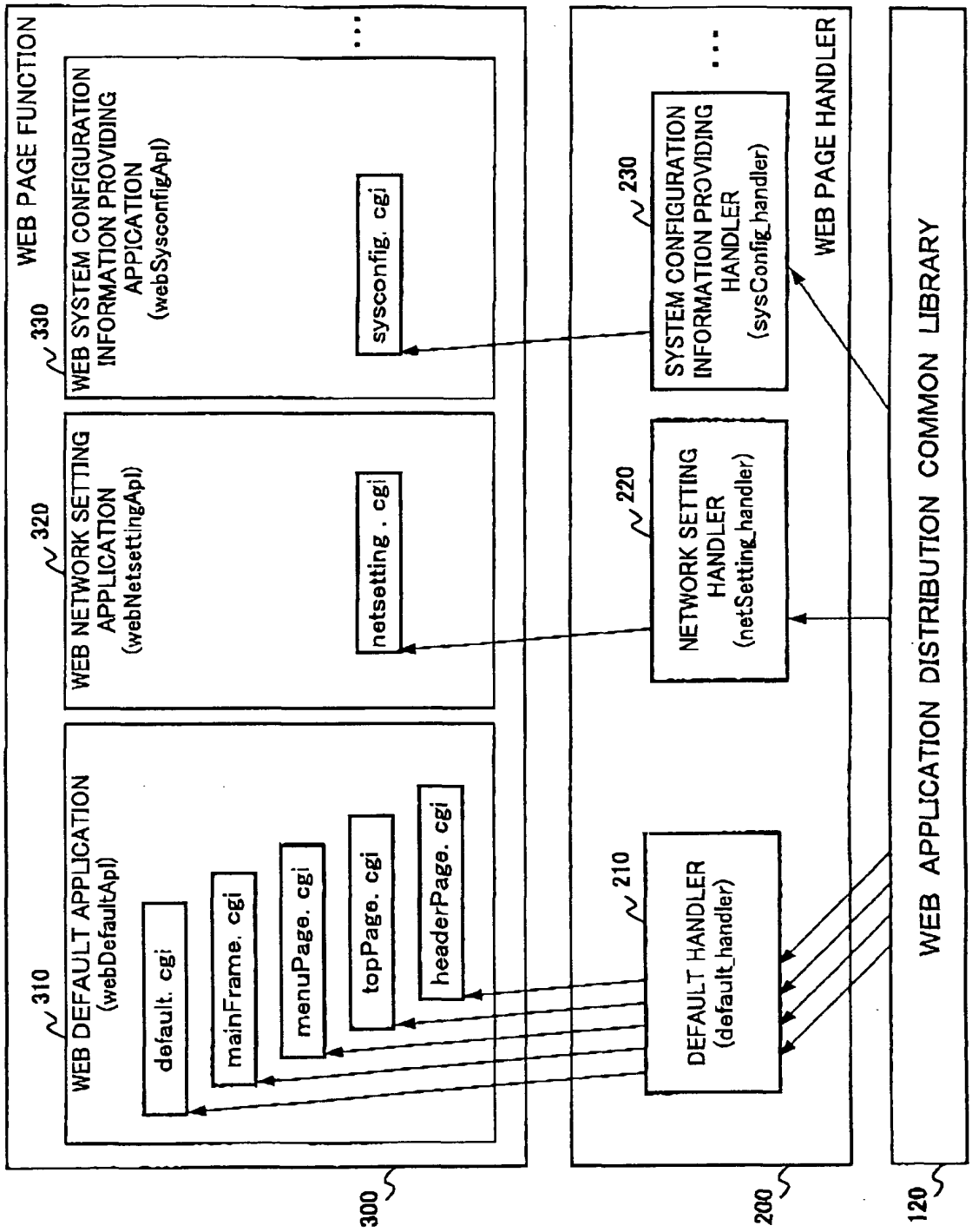

WEB PAGE FUNCTION
310
WEB DEFAULT APPLICATION
(webDefaultApl)
default. cgi
mainFrame. cgi
menuPage. cgi
topPage. cgi
headerPage. cgi
320
WEB NETWORK SETTING
APPLICATION
(webNetsettingApl)
netsetting . cgi
330
WEB SYSTEM CONFIGURATION
INFORMATION PROVIDING
APPLICATION
(webSysconfigApl)
sysconfig. cgi
300
210
DEFAULT HANDLER
(default_handler)
220
NETWORK SETTING
HANDLER
(netSetting_handler)
230
SYSTEM CONFIGURATION
INFORMATION PROVIDING
HANDLER
(sysConfig_handler)
WEB PAGE HANDLER
200
WEB APPLICATION DISTRIBUTION COMMON LIBRARY
120

FIG.5A

50a

WEB APPLICATION ID	WEB PAGE HANDLER TO CALL WEB APPLICATION
webDefaultApl	default__handler
webNetsettingApl	netSetting__handler
webSysconfigApl	sysConfig__handler
...	...

FIG.5B

50b

WEB PAGE FUNCTION ID	FUNCTION	STYLE SHEET
default. cgi	default()	default. xsl
mainFrame. cgi	mainFrame()	mainFrame. xsl
menuPage. cgi	menuPage()	menuPage. xsl
topPage. cgi	topPage()	topPage. xsl
headerPage. cgi	headerPage()	headerPage. xsl
netsetting. cgi	netsetting()	netsetting. xsl
sysconfig. cgi	sysconfig()	sysconfig. xsl
...	...	...

FIG.6

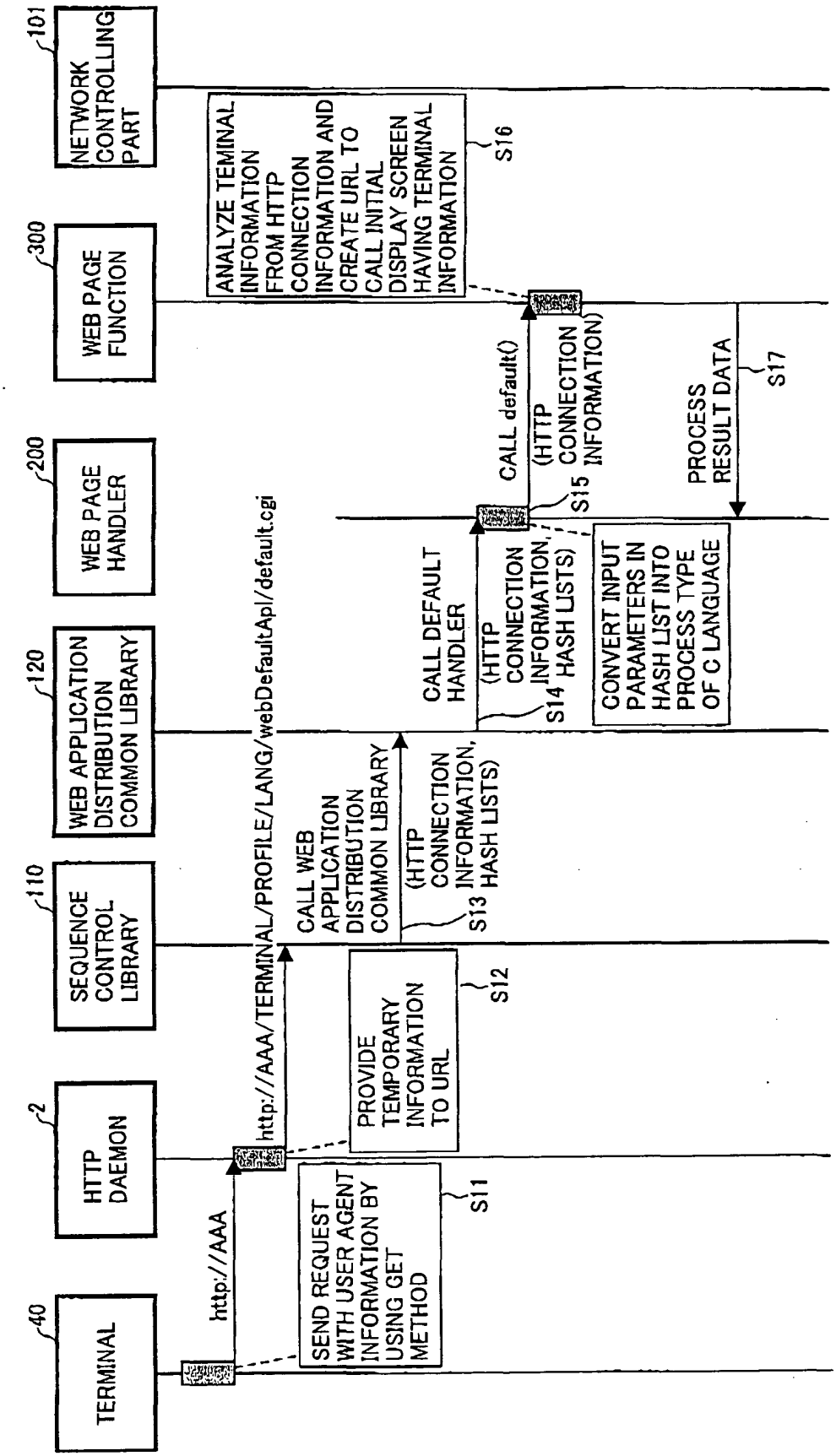

40
TERMINAL
2
HTTP DAEMON
110
SEQUENCE CONTROL LIBRARY
120
WEB APPLICATION DISTRIBUTION COMMON LIBRARY
200
WEB PAGE HANDLER
300
WEB PAGE FUNCTION
101
NETWORK CONTROLLING PART
http://AAA
SEND REQUEST WITH USER AGENT INFORMATION BY USING GET METHOD
S11
http://AAA/TERMINAL/PROFILE/LANG/webDefaultApl/default.cgi
PROVIDE TEMPORARY INFORMATION TO URL
S12
CALL WEB APPLICATION DISTRIBUTION COMMON LIBRARY
(HTTP CONNECTION INFORMATION, HASH LISTS)
S13
CALL DEFAULT HANDLER
(HTTP CONNECTION INFORMATION, HASH LISTS)
S14
CONVERT INPUT PARAMETERS IN HASH LIST INTO PROCESS TYPE OF C LANGUAGE
CALL default()
(HTTP CONNECTION INFORMATION)
S15
ANALYZE TEMINAL INFORMATION FROM HTTP CONNECTION INFORMATION AND CREATE URL TO CALL INITIAL DISPLAY SCREEN HAVING TERMINAL INFORMATION
S16
PROCESS RESULT DATA
S17

FIG.7

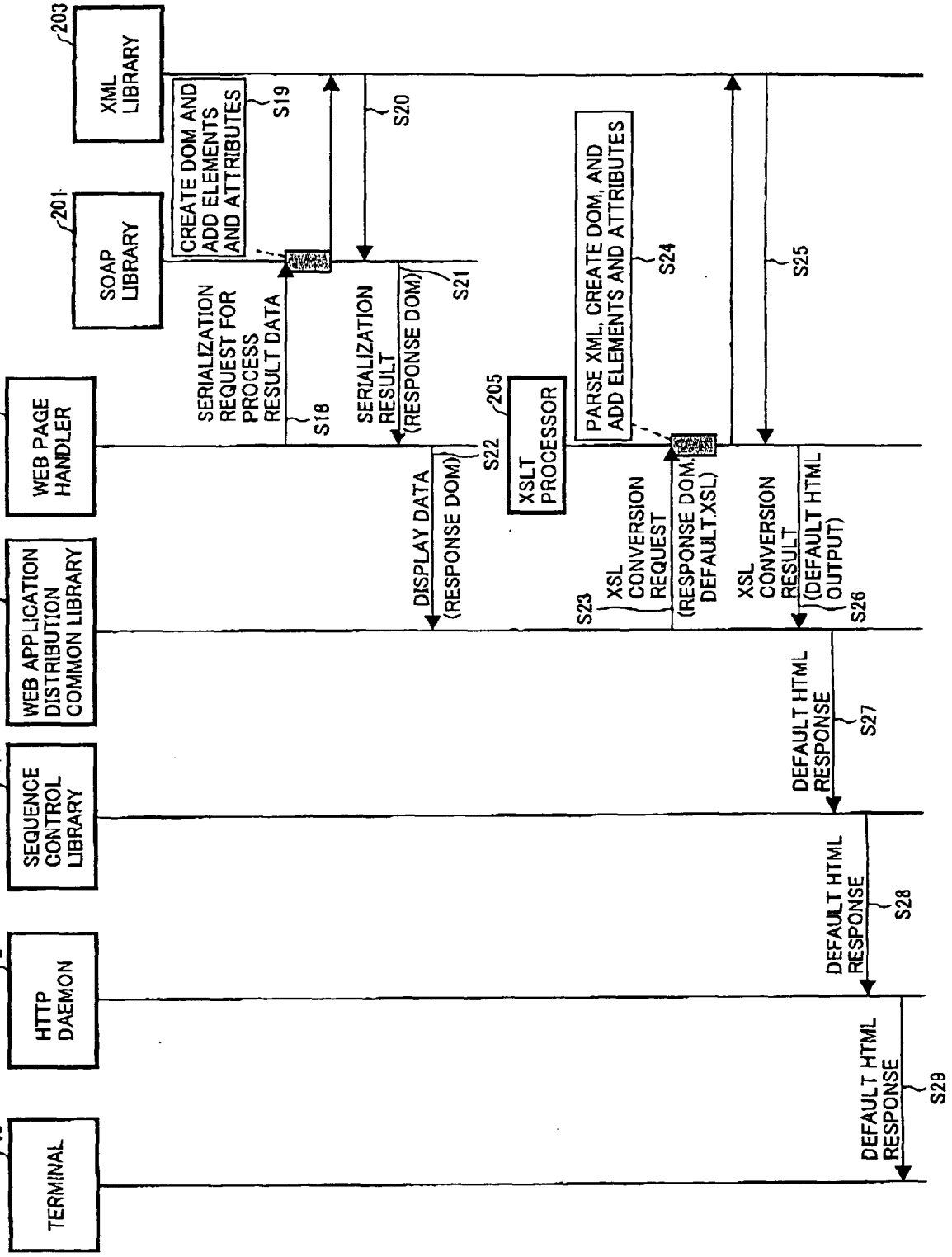

TERMINAL
40
HTTP DAEMON
2
SEQUENCE CONTROL LIBRARY
110
WEB APPLICATION DISTRIBUTION COMMON LIBRARY
120
WEB PAGE HANDLER
200
SOAP LIBRARY
201
XML LIBRARY
203
XSLT PROCESSOR
205
CREATE DOM AND ADD ELEMENTS AND ATTRIBUTES
S19
SERIALIZATION REQUEST FOR PROCESS RESULT DATA
S18
SERIALIZATION RESULT (RESPONSE DOM)
S20
S21
PARSE XML, CREATE DOM, AND ADD ELEMENTS AND ATTRIBUTES
S24
S25
DISPLAY DATA (RESPONSE DOM)
S22
XSL CONVERSION REQUEST
S23
(RESPONSE DOM, DEFAULT.XSL)
XSL CONVERSION RESULT
(DEFAULT HTML OUTPUT)
S26
DEFAULT HTML RESPONSE
S27
DEFAULT HTML RESPONSE
S28
DEFAULT HTML RESPONSE
S29

FIG.8

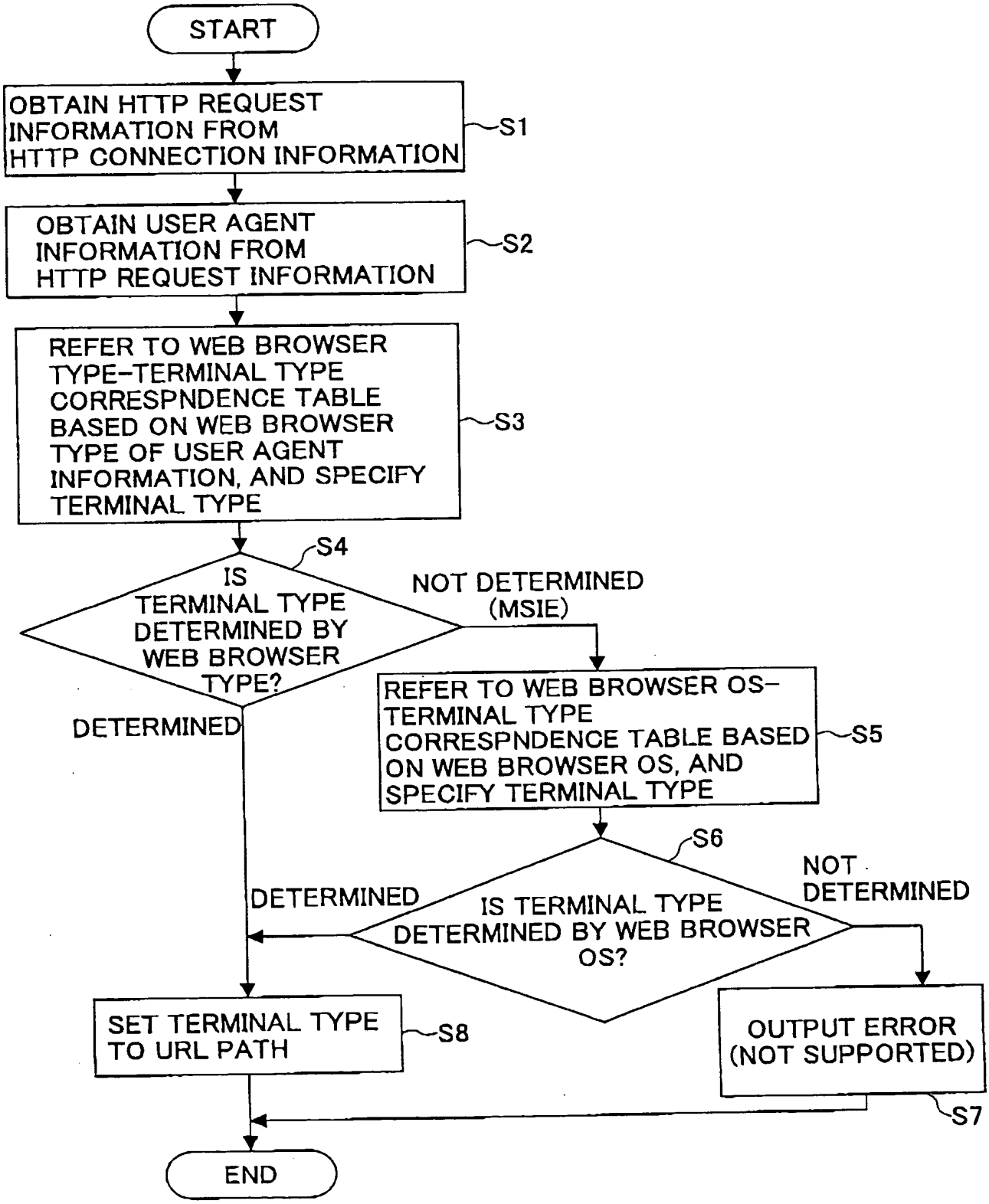
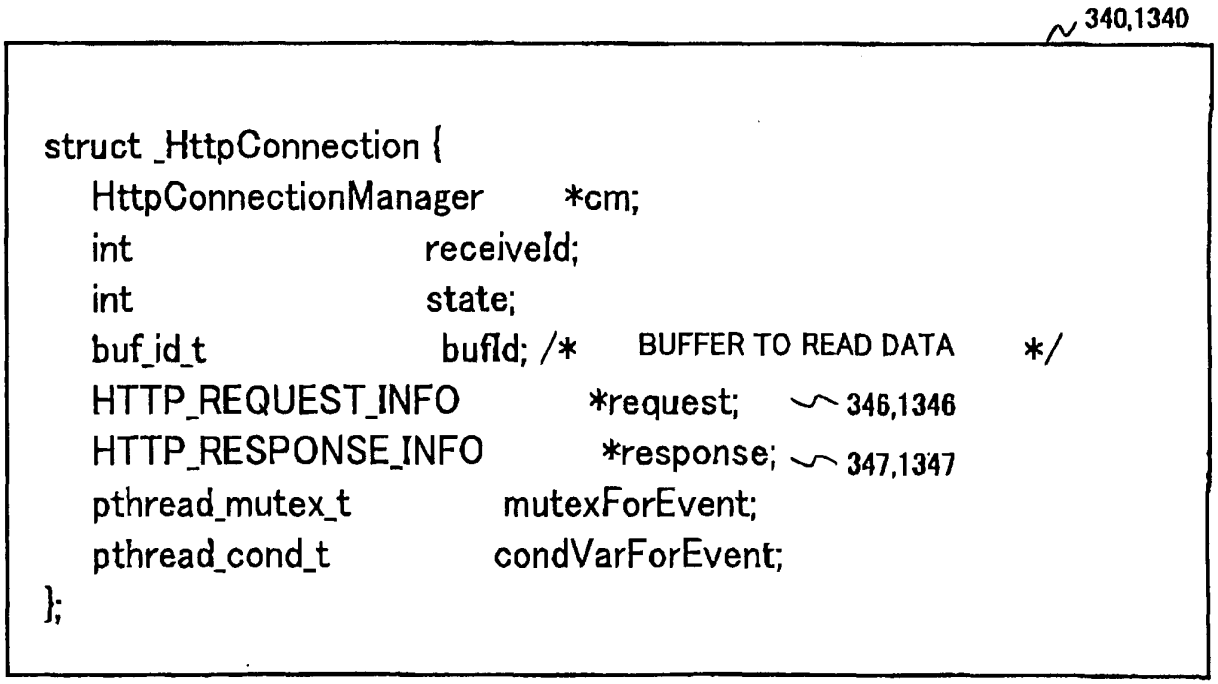

START
OBTAIN HTTP REQUEST INFORMATION FROM HTTP CONNECTION INFORMATION
S1
OBTAIN USER AGENT INFORMATION FROM HTTP REQUEST INFORMATION
S2
REFER TO WEB BROWSER TYPE-TERMINAL TYPE CORRESPNDENCE TABLE BASED ON WEB BROWSER TYPE OF USER AGENT INFORMATION, AND SPECIFY TERMINAL TYPE
S3
S4
IS TERMINAL TYPE DETERMINED BY WEB BROWSER TYPE?
NOT DETERMINED (MSIE)
DETERMINED
REFER TO WEB BROWSER OS-TERMINAL TYPE CORRESPNDENCE TABLE BASED ON WEB BROWSER OS, AND SPECIFY TERMINAL TYPE
S5
S6
IS TERMINAL TYPE DETERMINED BY WEB BROWSER OS?
DETERMINED
NOT DETERMINED
SET TERMINAL TYPE TO URL PATH
S8
OUTPUT ERROR (NOT SUPPORTED)
S7
END

FIG.9



OBLON, SPIVAK, ET AL
DOCKET #: 240620US2
INV: Seiji TAKAHASHI, et al.
SHEET 9 OF 59

FIG.10

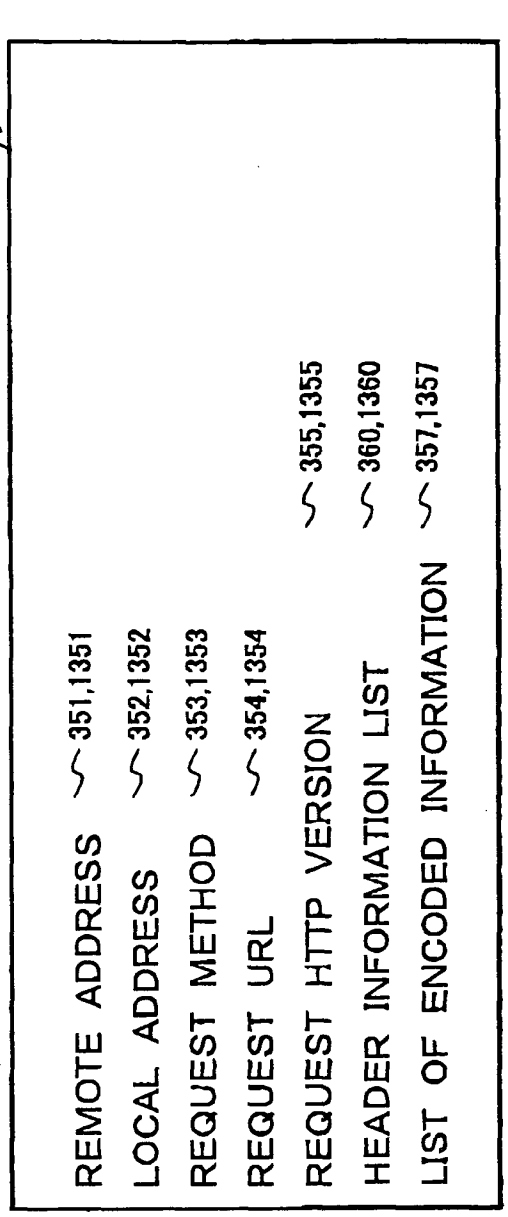

350,1350
REMOTE ADDRESS
351,1351
LOCAL ADDRESS
352,1352
REQUEST METHOD
353,1353
REQUEST URL
354,1354
REQUEST HTTP VERSION
355,1355
HEADER INFORMATION LIST
360,1360
LIST OF ENCODED INFORMATION
357,1357

FIG.11

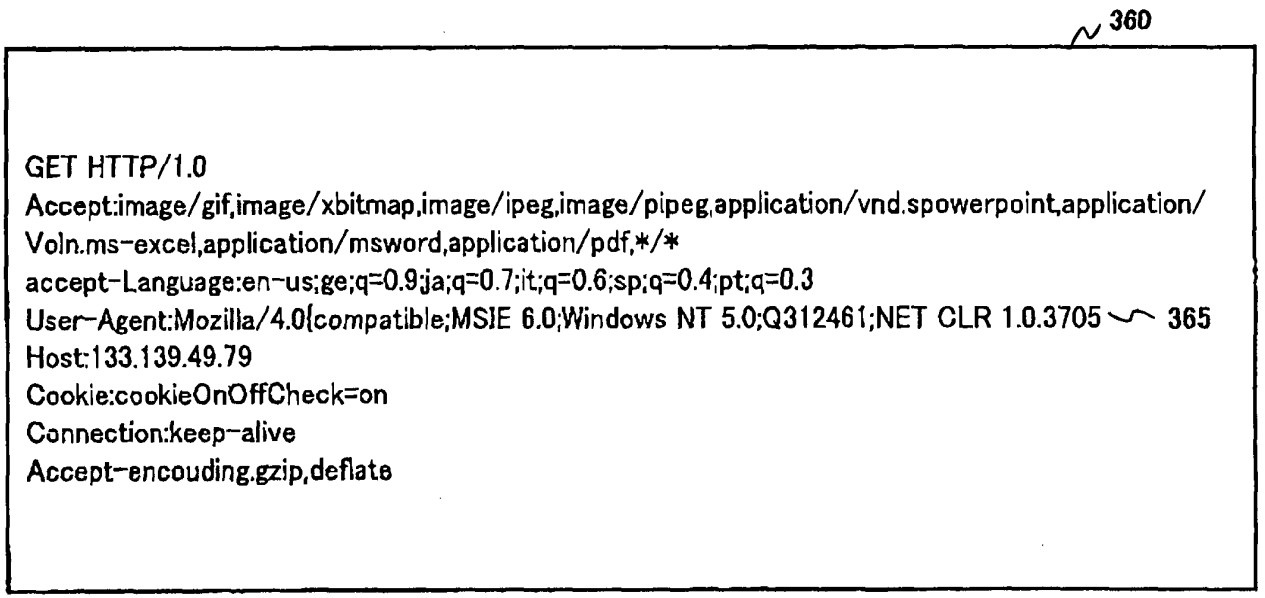

360
GET HTTP/1.0
Accept:image/gif,image/xbitmap,image/ipeg,image/pipeg,application/vnd.spowerpoint,application/
Voln.ms-excel,application/msword,application/pdf,*/*
accept-Language:en-us;ge;q=0.9;ja;q=0.7;it;q=0.6;sp;q=0.4;pt;q=0.3
User-Agent:Mozilla/4.0(compatible;MSIE 6.0;Windows NT 5.0;Q312461;NET CLR 1.0.3705
365
Host:133.139.49.79
Cookie:cookieOnOffCheck=on
Connection:keep-alive
Accept-encouding.gzip,deflate

FIG.12

370

WEB BROWSER TYPE	TERMINAL TYPE
DOCOMO	IMODE
xiino	PDA
MSPIE	PDA
HandHTTP	PDA
MSIE	O
Mozilla	PC
mozilla/5	PC
Netscape6	PC

FIG.13

380

WEB BROWSER OS	TERMINAL TYPE
Windows3.1	PC
Windows95	PC
Windows98	PC
WindowsME	PC
WindowsNT	PC
Windows2000	PC
WindowsXP	PC
Mac 68k	PC
Mac PowerPC	PC
Solaris	PC
Linux	PC
FreeBSD	PC
AIX	PC
IRIX	PC
HP	PC
OS/2	PC
WindowsCE	PDA

FIG.14

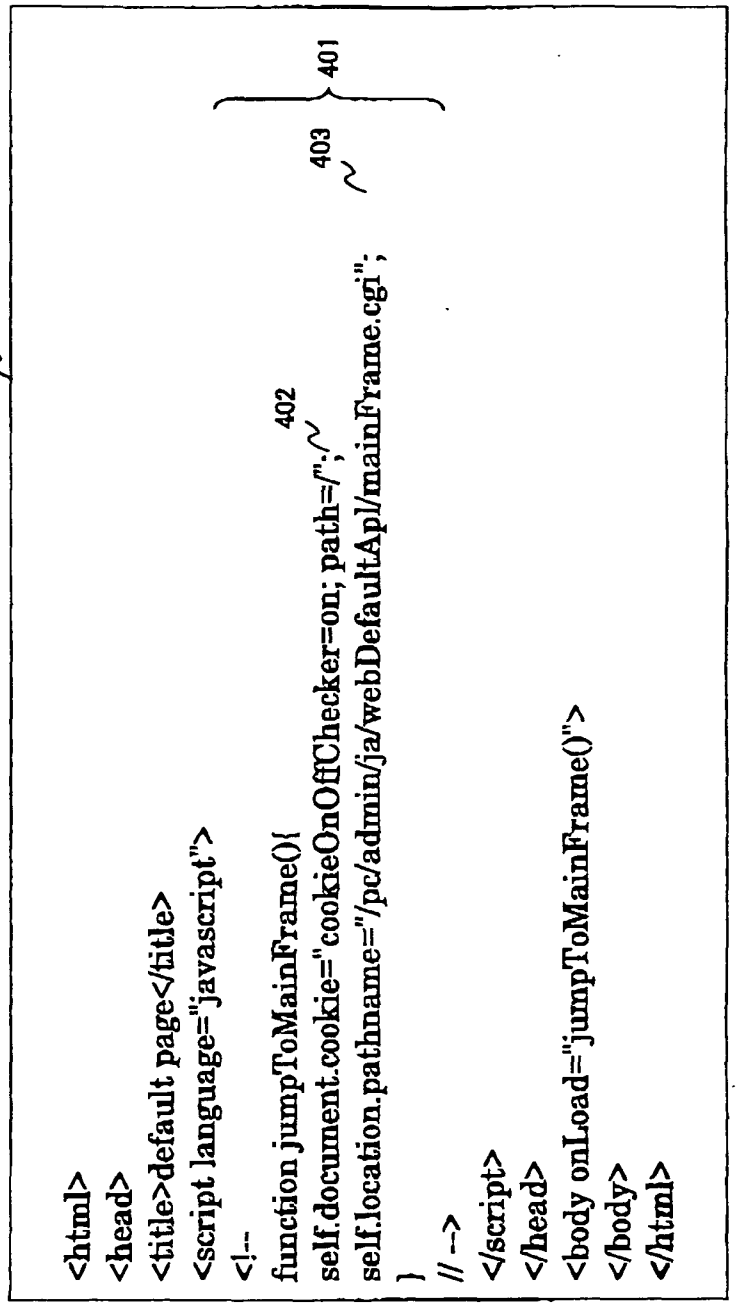

400
401
402
403
<html>
<head>
<title>default page</title>
<script language="javascript">
<!--
function jumpToMainFrame(){
self.document.cookie="cookieOnOffChecker=on; path=/";
self.location.pathname="/pc/admin/ja/webDefaultApl/mainFrame.cgi";
}
// -->
</script>
</head>
<body onLoad="jumpToMainFrame()">
</body>
</html>

FIG.15

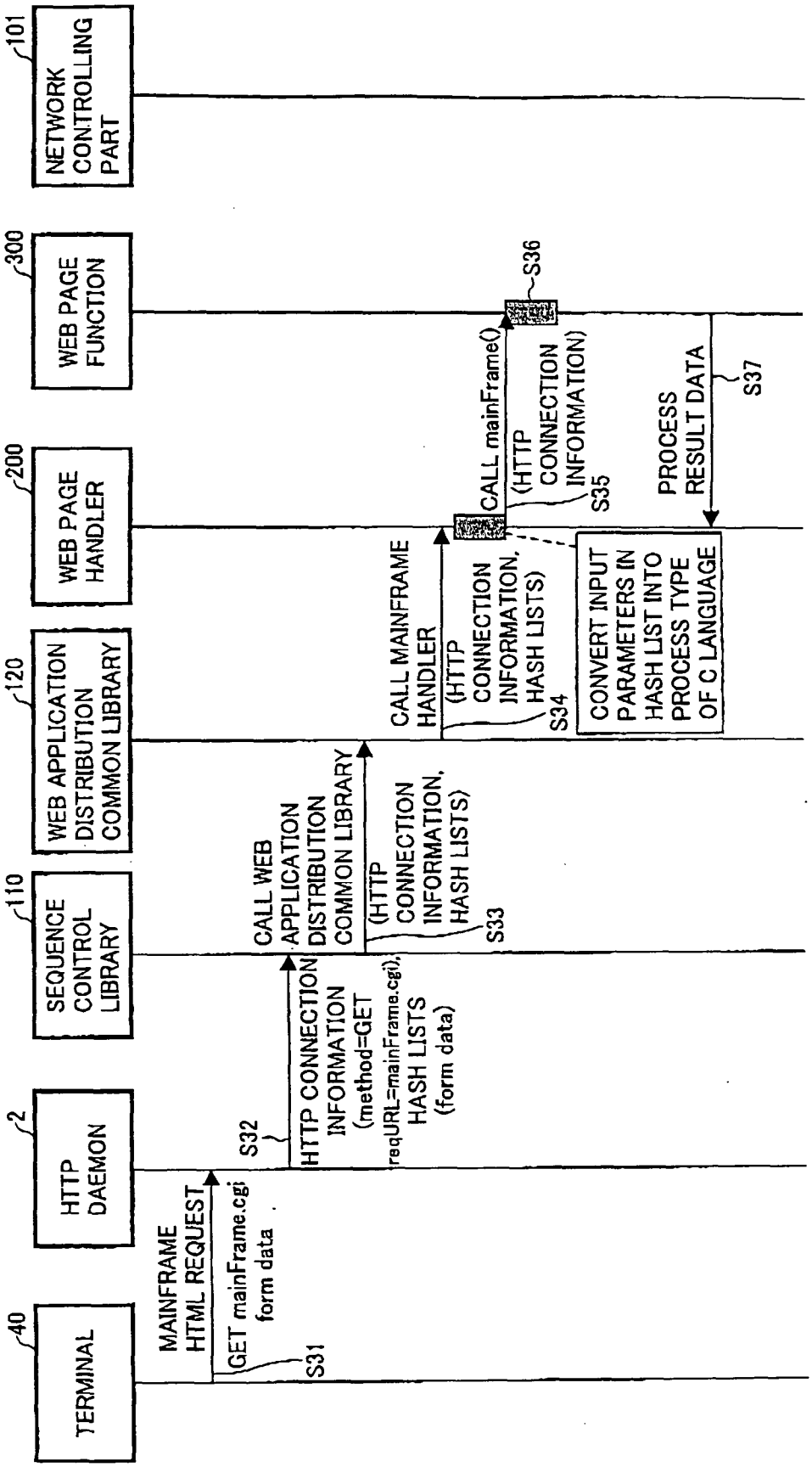

40
TERMINAL
2
HTTP DAEMON
110
SEQUENCE CONTROL LIBRARY
120
WEB APPLICATION DISTRIBUTION COMMON LIBRARY
200
WEB PAGE HANDLER
300
WEB PAGE FUNCTION
101
NETWORK CONTROLLING PART
MAINFRAME HTML REQUEST
GET mainFrame.cgi form data
S31
S32
HTTP CONNECTION INFORMATION (method=GET reqURL=mainFrame.cgi), HASH LISTS (form data)
CALL WEB APPLICATION DISTRIBUTION COMMON LIBRARY
(HTTP CONNECTION INFORMATION, HASH LISTS)
S33
CALL MAINFRAME HANDLER
(HTTP CONNECTION INFORMATION, HASH LISTS)
S34
CONVERT INPUT PARAMETERS IN HASH LIST INTO PROCESS TYPE OF C LANGUAGE
CALL mainFrame()
(HTTP CONNECTION INFORMATION)
S35
S36
PROCESS RESULT DATA
S37

FIG.16

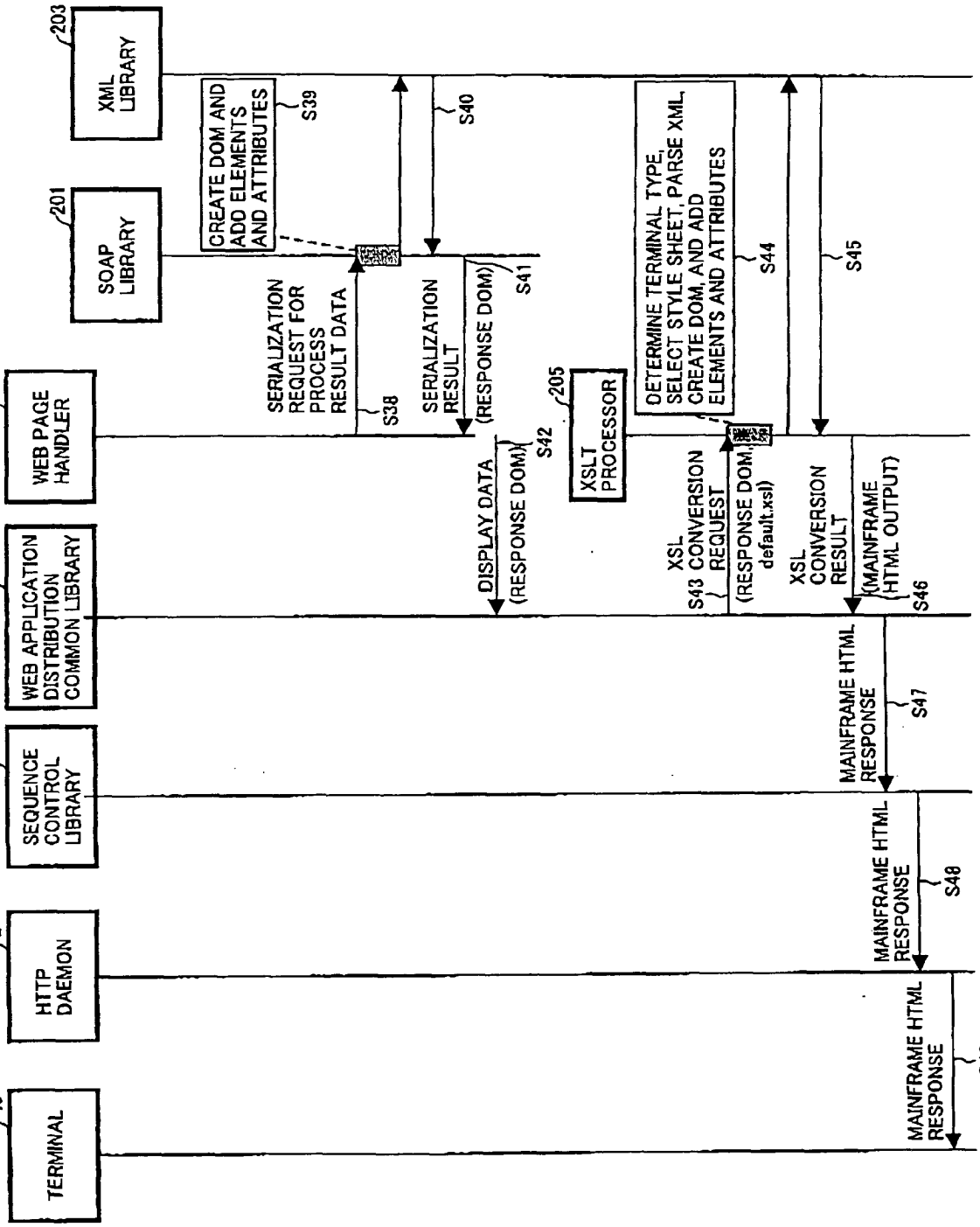
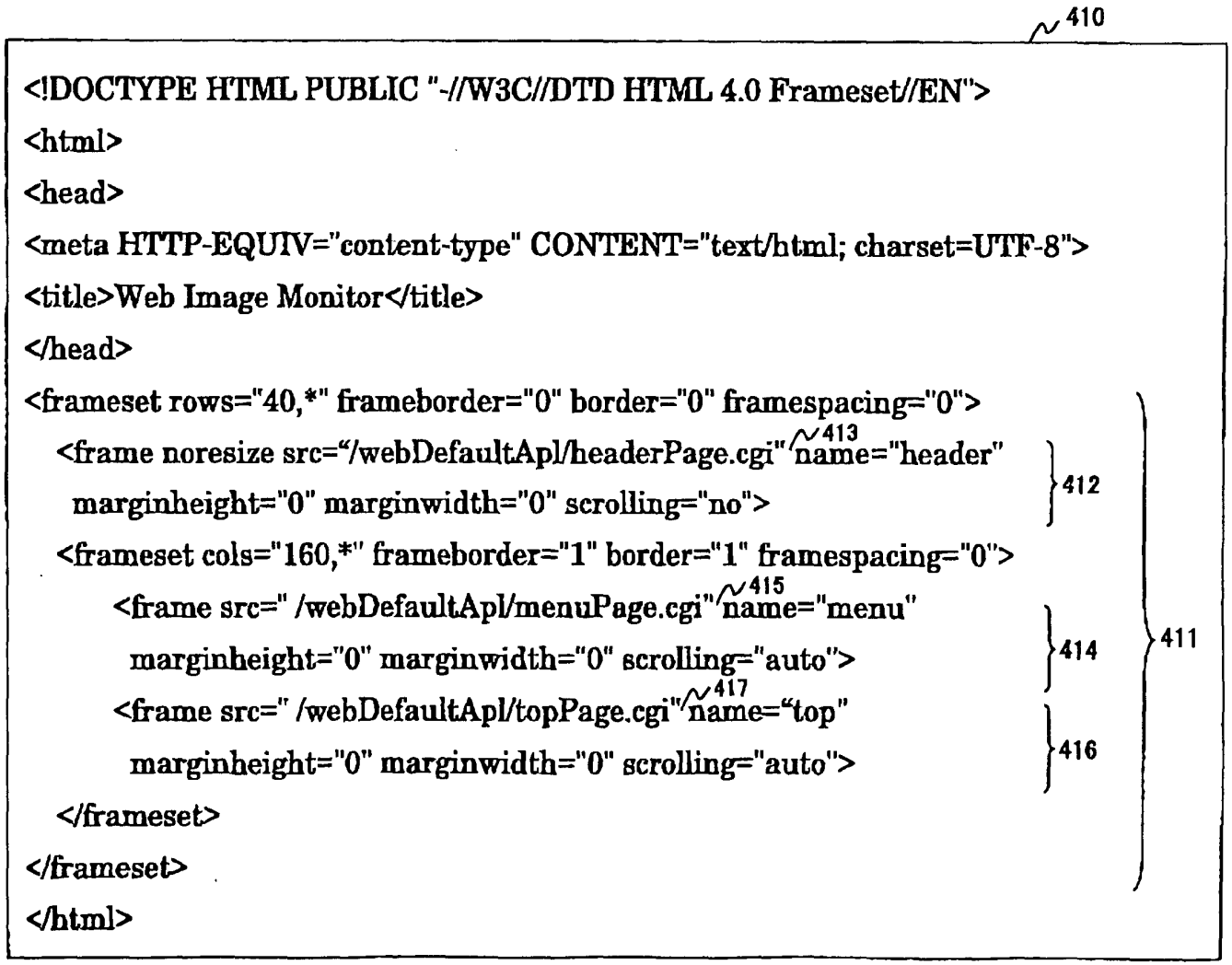

TERMINAL
40
HTTP DAEMON
2
SEQUENCE CONTROL LIBRARY
110
WEB APPLICATION DISTRIBUTION COMMON LIBRARY
120
WEB PAGE HANDLER
200
SOAP LIBRARY
201
XML LIBRARY
203
XSLT PROCESSOR
205
CREATE DOM AND ADD ELEMENTS AND ATTRIBUTES
S39
S40
SERIALIZATION REQUEST FOR PROCESS RESULT DATA
S38
SERIALIZATION RESULT (RESPONSE DOM)
S41
DISPLAY DATA (RESPONSE DOM)
S42
DETERMINE TERMINAL TYPE, SELECT STYLE SHEET, PARSE XML, CREATE DOM, AND ADD ELEMENTS AND ATTRIBUTES
S44
S45
XSL CONVERSION REQUEST (RESPONSE DOM, default.xsl)
S43
XSL CONVERSION RESULT (MAINFRAME HTML OUTPUT)
S46
MAINFRAME HTML RESPONSE
S47
MAINFRAME HTML RESPONSE
S48
MAINFRAME HTML RESPONSE
S49

FIG.17



OBLON, SPIVAK, ET AL
DOCKET #: 240620US2
INV: Seiji TAKAHASHI, et al.
SHEET 17 OF 59

FIG.18

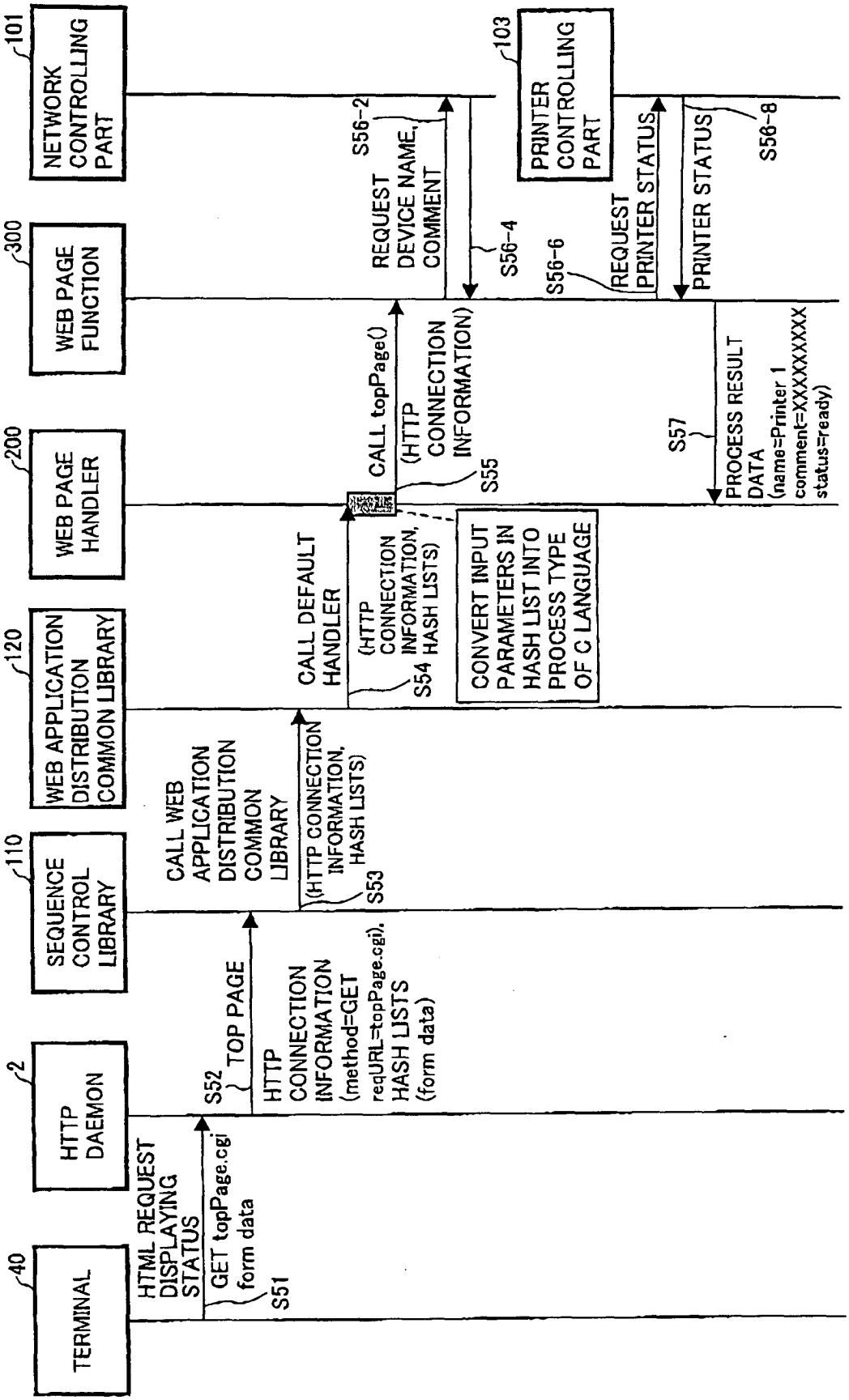

40
TERMINAL
2
HTTP DAEMON
110
SEQUENCE CONTROL LIBRARY
120
WEB APPLICATION DISTRIBUTION COMMON LIBRARY
200
WEB PAGE HANDLER
300
WEB PAGE FUNCTION
101
NETWORK CONTROLLING PART
103
PRINTER CONTROLLING PART
HTML REQUEST DISPLAYING STATUS
GET topPage.cgi form data
S51
S52
TOP PAGE
HTTP CONNECTION INFORMATION (method=GET reqURL=topPage.cgi, HASH LISTS (form data)
CALL WEB APPLICATION DISTRIBUTION COMMON LIBRARY
(HTTP CONNECTION INFORMATION, HASH LISTS)
S53
CALL DEFAULT HANDLER
(HTTP CONNECTION INFORMATION, HASH LISTS)
S54
CONVERT INPUT PARAMETERS IN HASH LIST INTO PROCESS TYPE OF C LANGUAGE
CALL topPage()
(HTTP CONNECTION INFORMATION)
S55
S56-2
REQUEST DEVICE NAME, COMMENT
S56-4
S56-6
REQUEST PRINTER STATUS
PRINTER STATUS
S56-8
S57
PROCESS RESULT DATA (name=Printer 1 comment=XXXXXXXX status=ready)

FIG.19

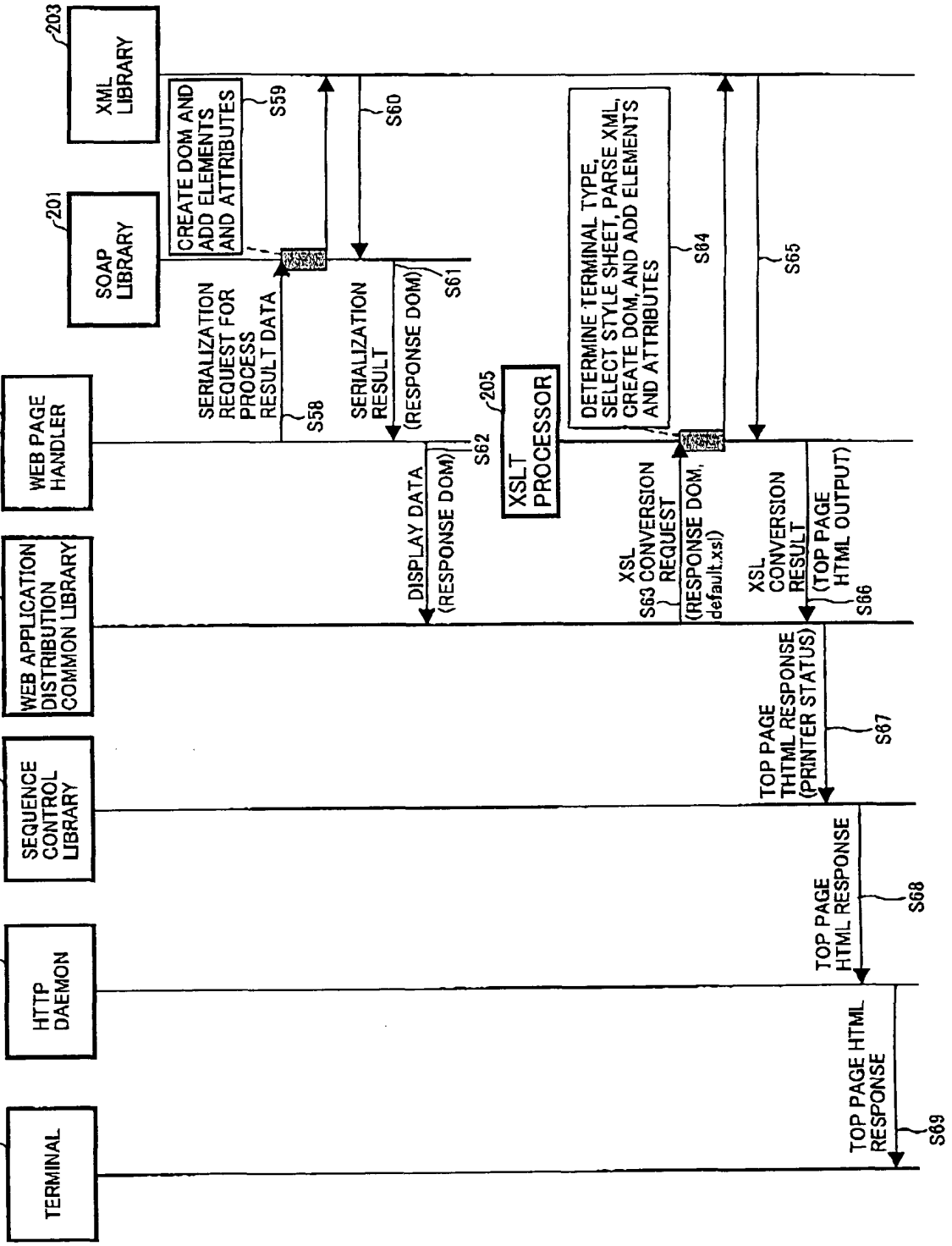

TERMINAL
40
HTTP DAEMON
2
SEQUENCE CONTROL LIBRARY
110
WEB APPLICATION DISTRIBUTION COMMON LIBRARY
120
WEB PAGE HANDLER
200
SOAP LIBRARY
201
XML LIBRARY
203
XSLT PROCESSOR
205
CREATE DOM AND ADD ELEMENTS AND ATTRIBUTES
S59
SERIALIZATION REQUEST FOR PROCESS RESULT DATA
S58
SERIALIZATION RESULT (RESPONSE DOM)
S60
S61
DISPLAY DATA (RESPONSE DOM)
S62
DETERMINE TERMINAL TYPE, SELECT STYLE SHEET, PARSE XML, CREATE DOM, AND ADD ELEMENTS AND ATTRIBUTES
S64
S65
XSL CONVERSION REQUEST (RESPONSE DOM, default.xsl)
S63
XSL CONVERSION RESULT (TOP PAGE HTML OUTPUT)
S66
TOP PAGE THTML RESPONSE (PRINTER STATUS)
S67
TOP PAGE HTML RESPONSE
S68
TOP PAGE HTML RESPONSE
S69

FIG.20

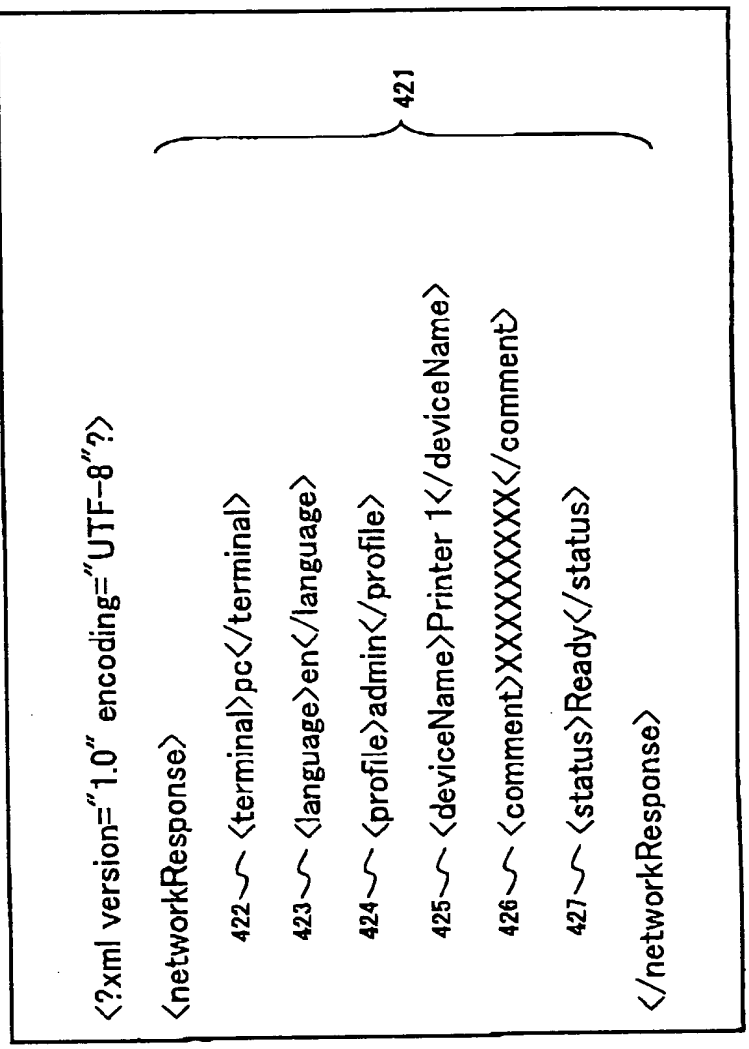
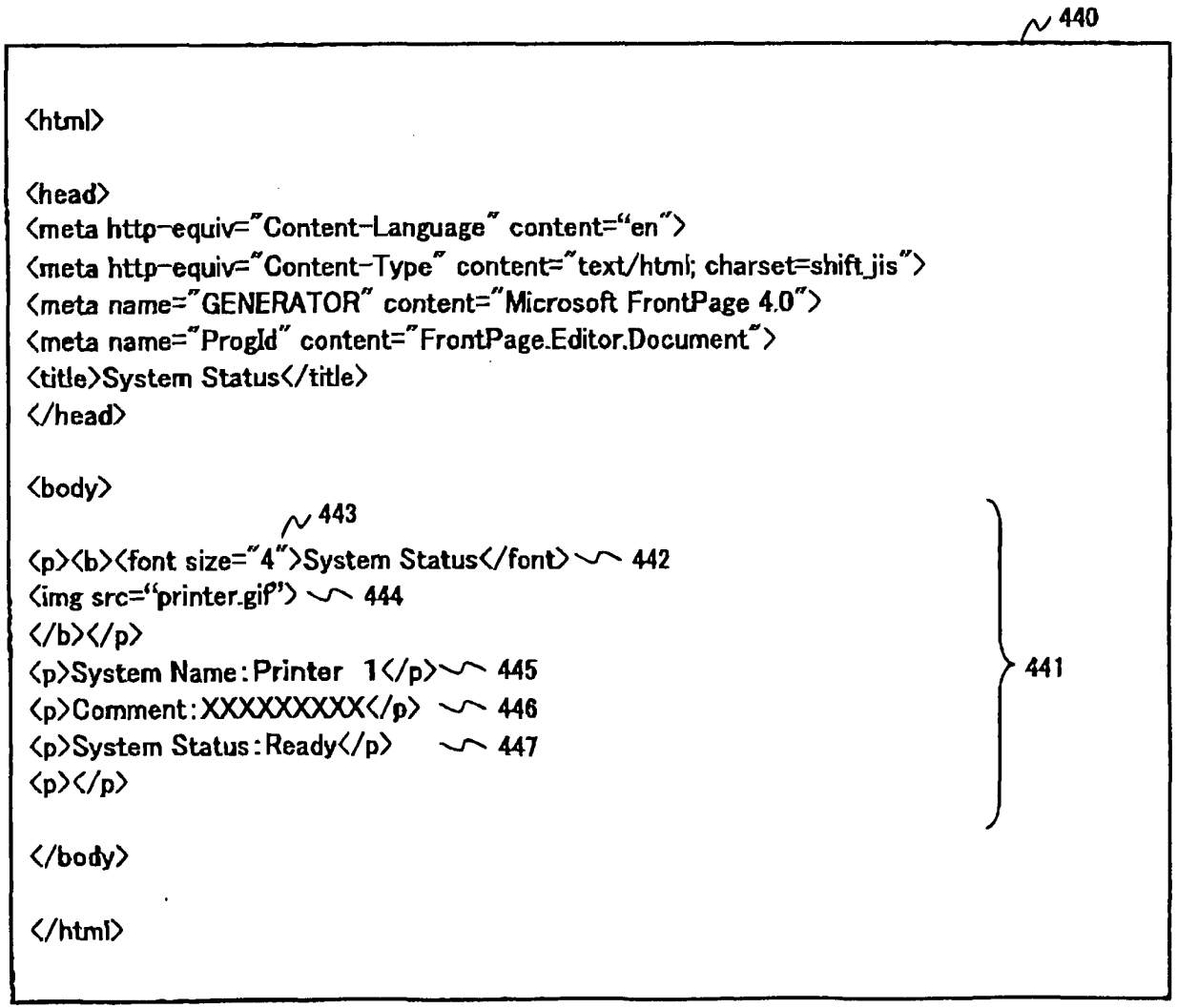

420
<?xml version="1.0" encoding="UTF-8"?>
<networkResponse>
422 <terminal>pc</terminal>
423 <language>en</language>
424 <profile>admin</profile>
425 <deviceName>Printer 1</deviceName>
426 <comment>XXXXXXXXX</comment>
427 <status>Ready</status>
421
</networkResponse>

FIG.21

430

```
<?xml version="1.0" encoding="UTF-8" ?>
<xsl:stylesheet xmlns:xsl="http://www.w3.org/1999/XSL/Transform" xmlns:sf="http://www.rr
 rr.co.jp/xmlns/xslt/rdh/common" version="1.0">
  <xsl:output method="html" encoding="UTF-8" />
<xsl:template match="/">
<html>
        <body>
                <xsl:apply-templates />
        </body>
</html>
</xsl:template>

<!--  Templates for body  -->
<xsl:template match="networkResponse">
<!--  Display the page title  -->
<xsl:call-template name="statusTitle4CommonProfile" />
<!--  Check current terminal type(pda or pc) and call suitable template  -->
        <xsl:choose>
                <xsl:when test="contains(//urldevice, 'pda')">                    ~ 431
                        <xsl:call-template name="networkResponse_pda" />          ~ 432
                </xsl:when>
                <xsl:otherwise>
                        <xsl:call-template name="networkResponse" />              ~ 433
                </xsl:otherwise>
        </xsl:choose>
</xsl:template>

<!- COMMON ITEMS ->
<xsl:template name="networkTitle4CommonProfile">
        <!- OMISSION ->
</xsl:template>

<!- STYLE SHEET FOR PDA TERMINAL ->
<xsl:template name="networkResponse_pda">
        <!- OMISSION ->                                                    } 434
</xsl:template>

<!- STYLE SHEET FOR PC ->->
<xsl:template name="networkResponse">
        <!- OMISSION ->                                                    } 435
</xsl:template>
</xsl:stylesheet>
```

FIG.22



OBLON, SPIVAK, ET AL
DOCKET #: 240620US2
INV: Seiji TAKAHASHI, et al.
SHEET 22 OF 59

FIG.23

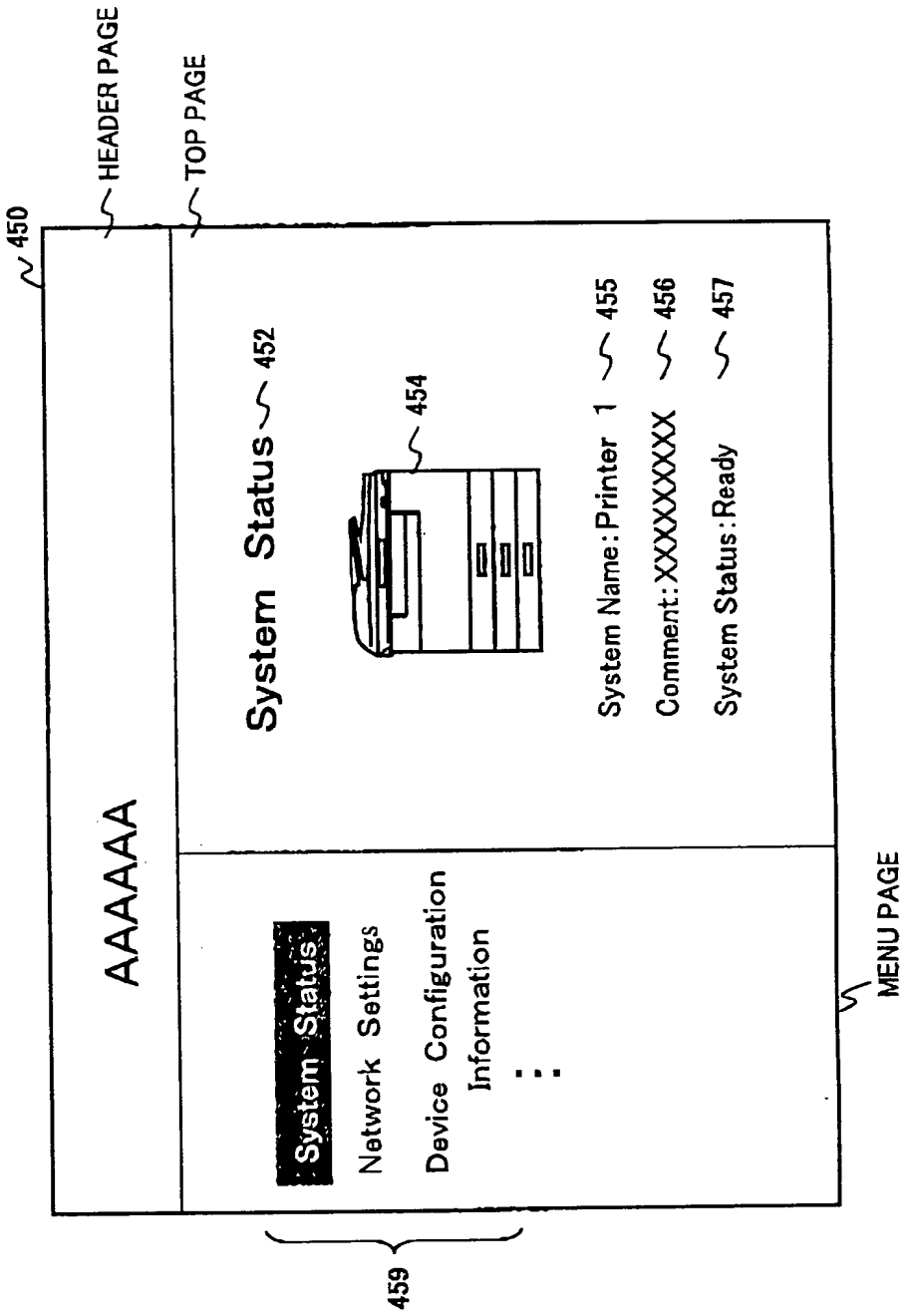
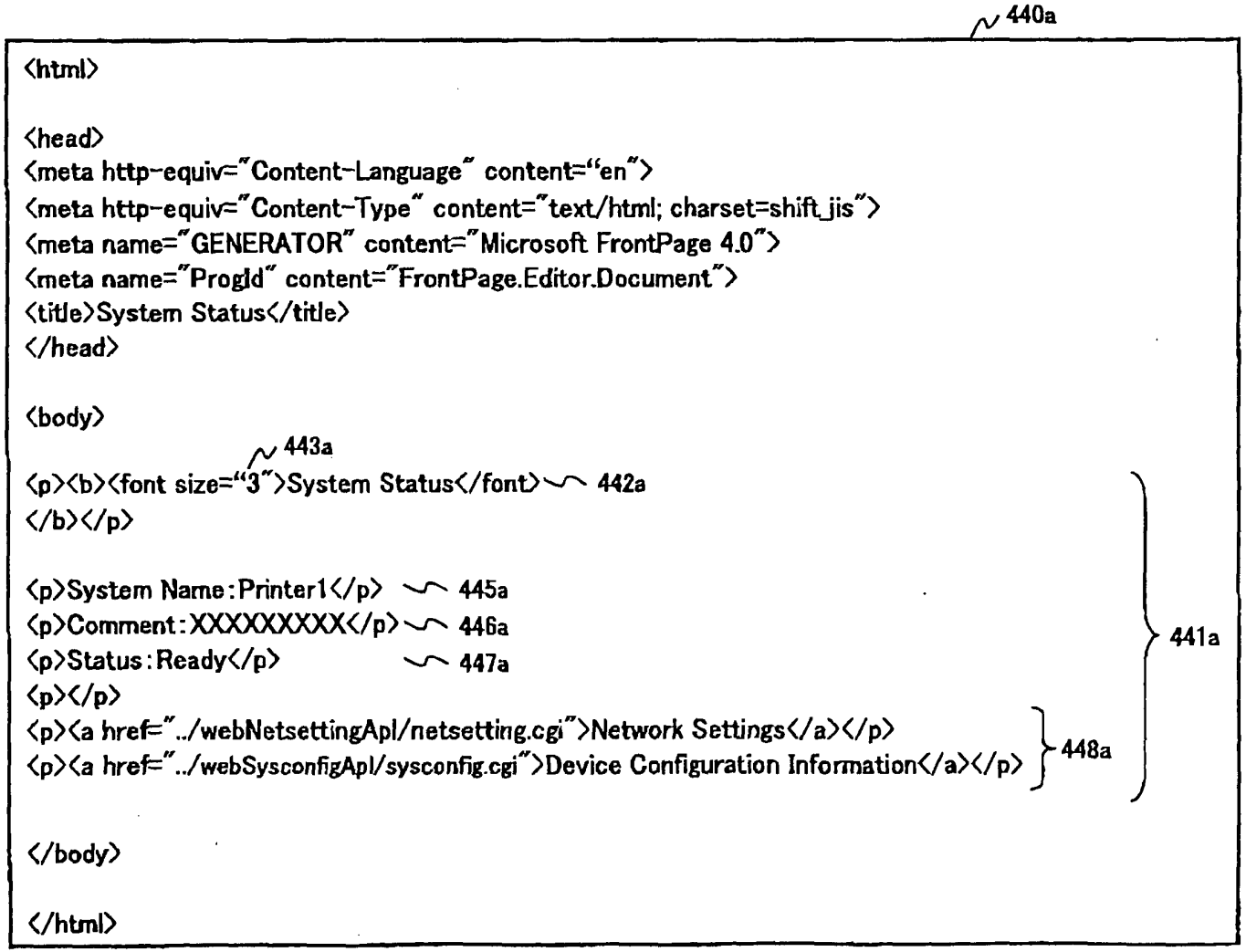

450
HEADER PAGE
TOP PAGE
AAAAAA
System Status
452
454
System Name: Printer 1
455
Comment: XXXXXXXXX
456
System Status: Ready
457
System Status
Network Settings
Device Configuration Information
459
MENU PAGE

FIG.24



OBLON, SPIVAK, ET AL
DOCKET #: 240620US2
INV: Seiji TAKAHASHI, et al.
SHEET 24 OF 59

FIG.25

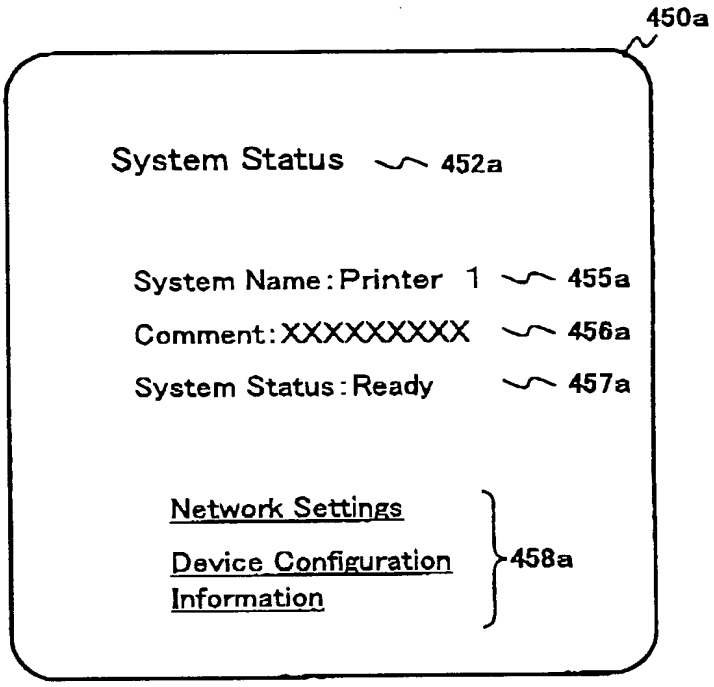

450a
System Status
452a
System Name: Printer 1
455a
Comment: XXXXXXXXX
456a
System Status: Ready
457a
Network Settings
Device Configuration Information
458a

FIG.26

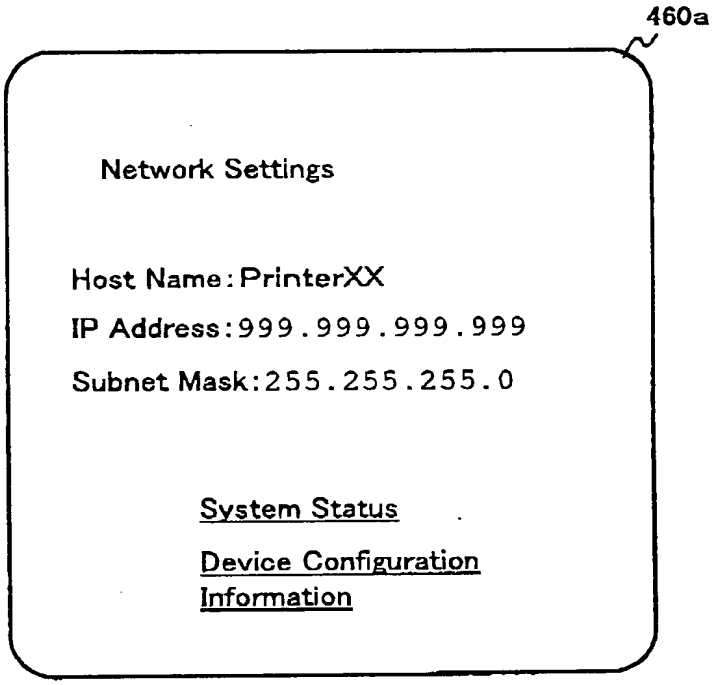

460a
Network Settings
Host Name: PrinterXX
IP Address: 999.999.999.999
Subnet Mask: 255.255.255.0
System Status
Device Configuration Information

FIG.27

FIG.28

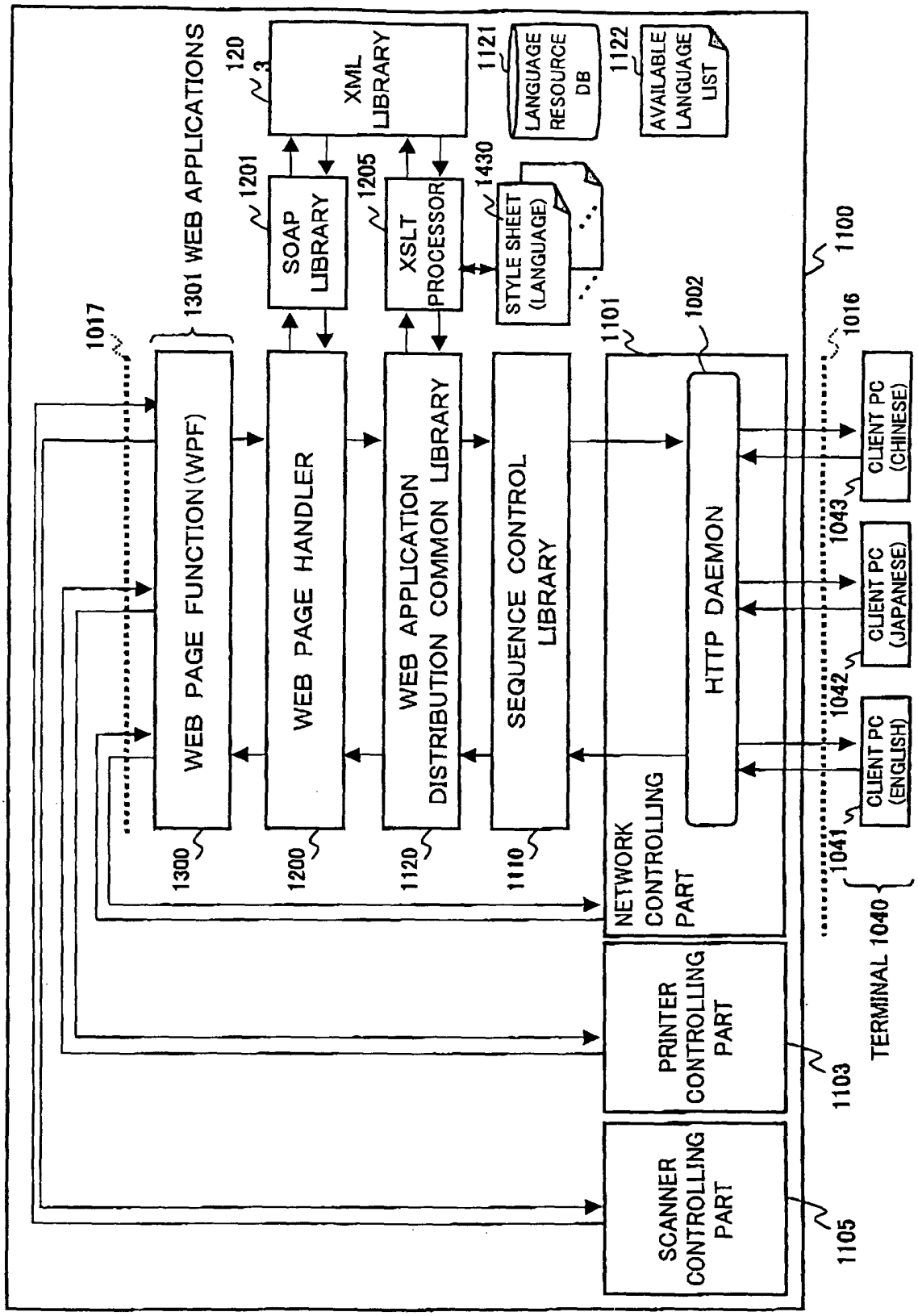

1100
1301 WEB APPLICATIONS
1017
1016
120
3
XML LIBRARY
1121
LANGUAGE RESOURCE DB
1122
AVAILABLE LANGUAGE LIST
1201
SOAP LIBRARY
1205
XSLT PROCESSOR
1430
STYLE SHEET (LANGUAGE)
1101
1002
WEB PAGE FUNCTION (WPF)
WEB PAGE HANDLER
WEB APPLICATION DISTRIBUTION COMMON LIBRARY
SEQUENCE CONTROL LIBRARY
HTTP DAEMON
CLIENT PC (CHINESE)
CLIENT PC (JAPANESE)
CLIENT PC (ENGLISH)
1043
1042
1041
1300
1200
1120
1110
NETWORK CONTROLLING PART
PRINTER CONTROLLING PART
SCANNER CONTROLLING PART
1103
1105
TERMINAL 1040

FIG.29

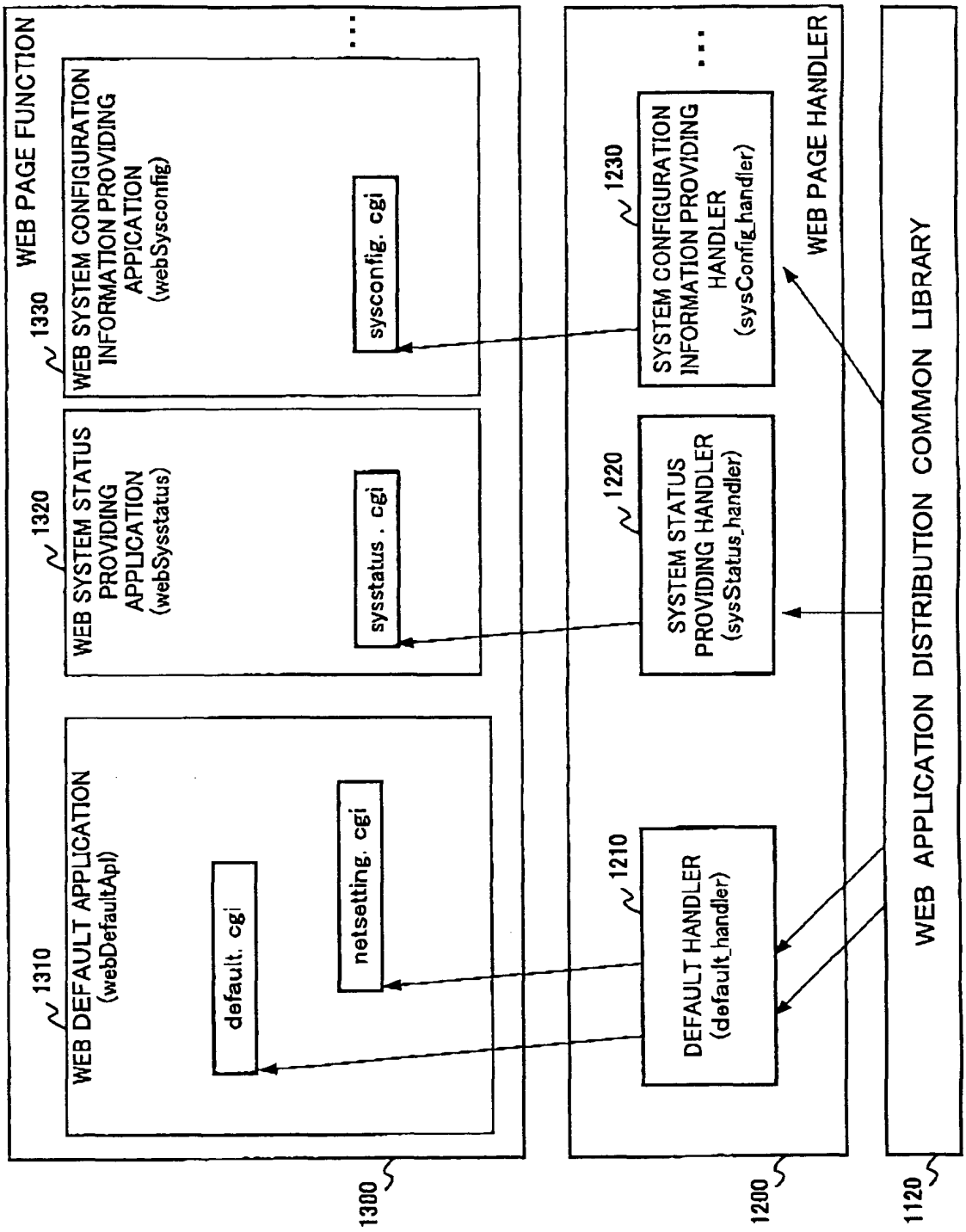

WEB PAGE FUNCTION
1310
WEB DEFAULT APPLICATION (webDefaultApl)
default. cgi
netsetting. cgi
1320
WEB SYSTEM STATUS PROVIDING APPLICATION (webSysstatus)
sysstatus . cgi
1330
WEB SYSTEM CONFIGURATION INFORMATION PROVIDING APPLICATION (webSysconfig)
sysconfig. cgi
1300
WEB PAGE HANDLER
1210
DEFAULT HANDLER (default_handler)
1220
SYSTEM STATUS PROVIDING HANDLER (sysStatus_handler)
1230
SYSTEM CONFIGURATION INFORMATION PROVIDING HANDLER (sysConfig_handler)
1200
WEB APPLICATION DISTRIBUTION COMMON LIBRARY
1120

FIG.30A

1050a

WEB APPLICATION ID	WEB PAGE HANDLER TO CALL WEB APPLICATION
webDefaultApl	default__handler
webNetsettingApl	netSetting__handler
webSysconfigApl	sysConfig__handler
...	...

FIG.30B

1050b

WEB PAGE FUNCTION ID	FUNCTION	STYLE SHEET
default. cgi	default()	default. xsl
netsetting. cgi	netsetting()	netsetting. xsl
sysstatus. cgi	sysstatus()	sysstatus. xsl
sysconfig. cgi	sysconfig()	sysconfig. xsl
...	...	...

FIG.31

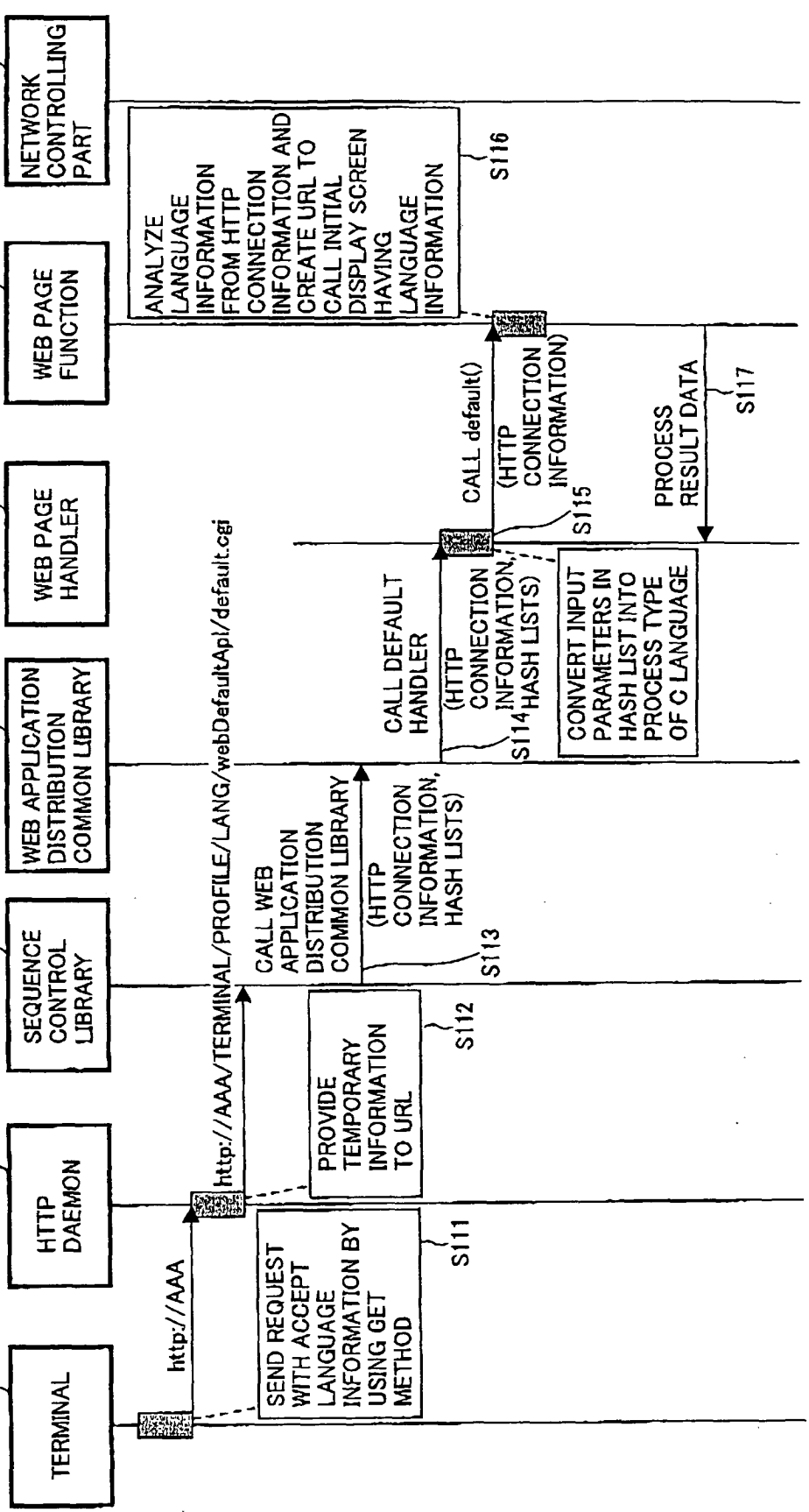

TERMINAL
1040
HTTP DAEMON
1002
SEQUENCE CONTROL LIBRARY
1110
WEB APPLICATION DISTRIBUTION COMMON LIBRARY
1120
WEB PAGE HANDLER
1200
WEB PAGE FUNCTION
1300
NETWORK CONTROLLING PART
1101
http://AAA
http://AAA/TERMINAL/PROFILE/LANG/webDefaultApl/default.cgi
SEND REQUEST WITH ACCEPT LANGUAGE INFORMATION BY USING GET METHOD
S111
PROVIDE TEMPORARY INFORMATION TO URL
S112
CALL WEB APPLICATION DISTRIBUTION COMMON LIBRARY
(HTTP CONNECTION INFORMATION, HASH LISTS)
S113
CALL DEFAULT HANDLER
(HTTP CONNECTION INFORMATION, HASH LISTS)
S114
CONVERT INPUT PARAMETERS IN HASH LIST INTO PROCESS TYPE OF C LANGUAGE
CALL default()
(HTTP CONNECTION INFORMATION)
S115
ANALYZE LANGUAGE INFORMATION FROM HTTP CONNECTION INFORMATION AND CREATE URL TO CALL INITIAL DISPLAY SCREEN HAVING LANGUAGE INFORMATION
S116
PROCESS RESULT DATA
S117

FIG.32

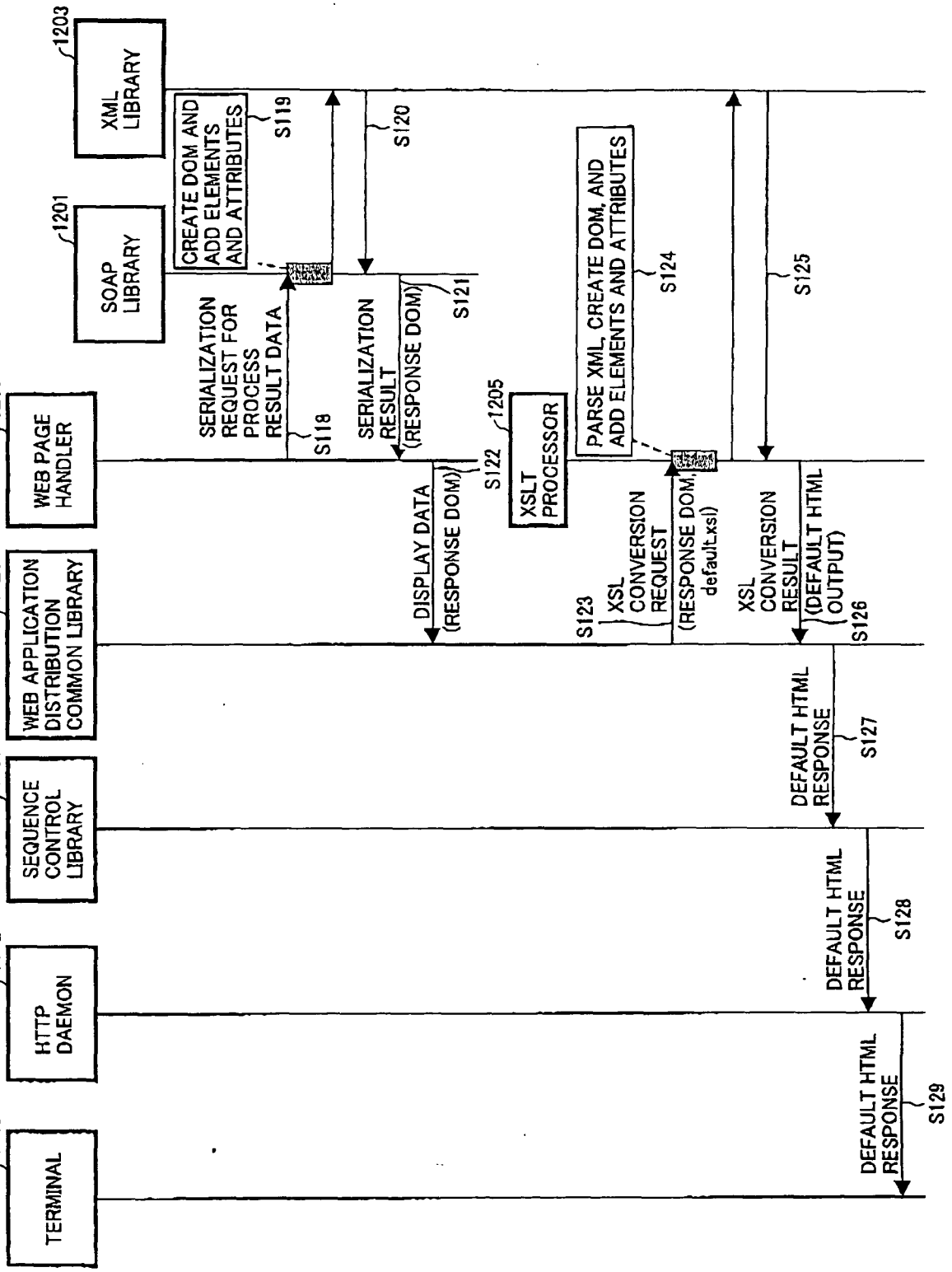

TERMINAL
1040
HTTP DAEMON
1002
SEQUENCE CONTROL LIBRARY
1110
WEB APPLICATION DISTRIBUTION COMMON LIBRARY
1120
WEB PAGE HANDLER
1200
SOAP LIBRARY
1201
XML LIBRARY
1203
XSLT PROCESSOR
1205
CREATE DOM AND ADD ELEMENTS AND ATTRIBUTES
S119
S120
SERIALIZATION REQUEST FOR PROCESS RESULT DATA
S118
SERIALIZATION RESULT (RESPONSE DOM)
S121
DISPLAY DATA (RESPONSE DOM)
S122
PARSE XML, CREATE DOM, AND ADD ELEMENTS AND ATTRIBUTES
S124
S125
S123
XSL CONVERSION REQUEST (RESPONSE DOM, default.xsl)
XSL CONVERSION RESULT (DEFAULT HTML OUTPUT)
S126
DEFAULT HTML RESPONSE
S127
DEFAULT HTML RESPONSE
S128
DEFAULT HTML RESPONSE
S129

FIG.33

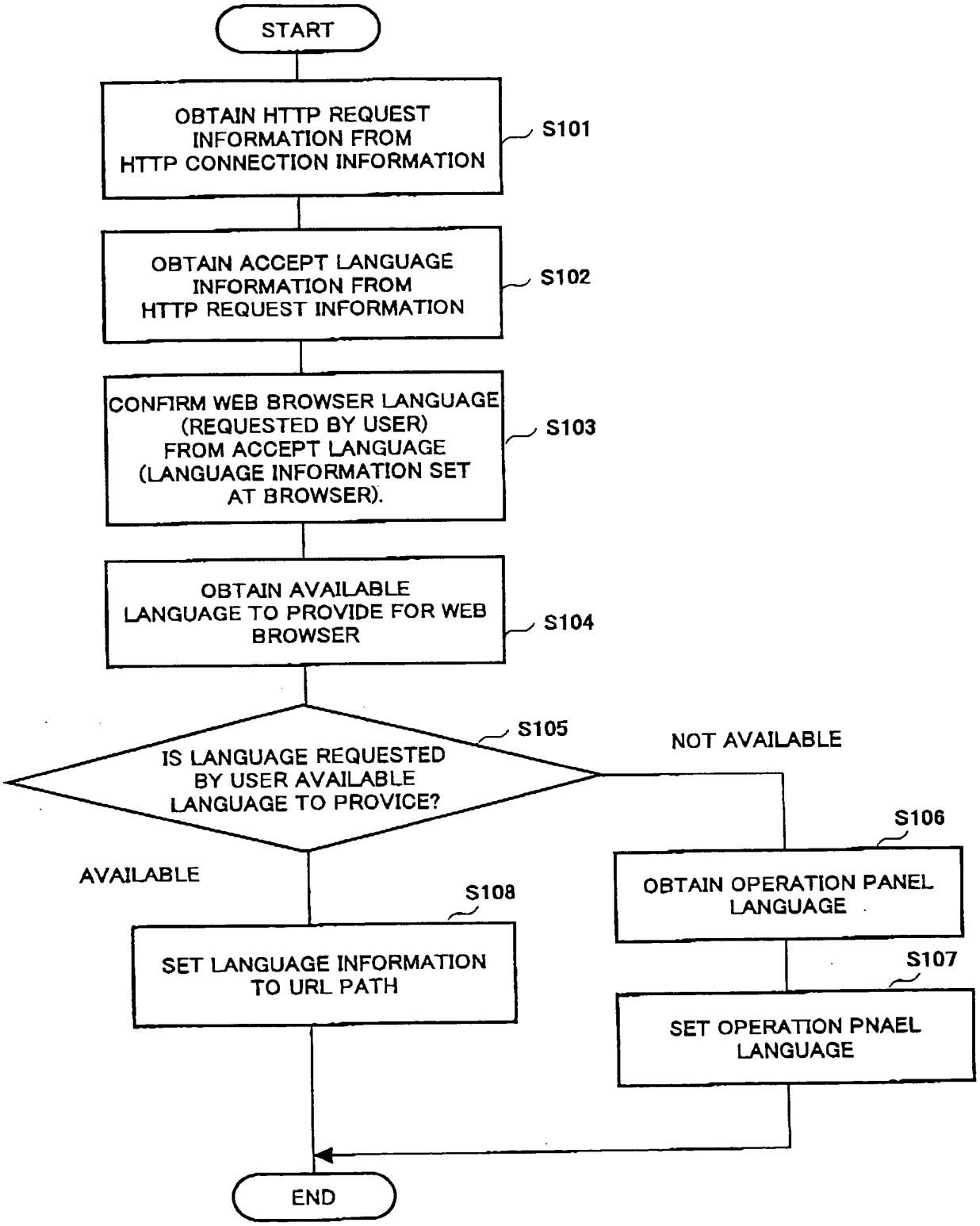

START
OBTAIN HTTP REQUEST INFORMATION FROM HTTP CONNECTION INFORMATION
S101
OBTAIN ACCEPT LANGUAGE INFORMATION FROM HTTP REQUEST INFORMATION
S102
CONFIRM WEB BROWSER LANGUAGE (REQUESTED BY USER) FROM ACCEPT LANGUAGE (LANGUAGE INFORMATION SET AT BROWSER).
S103
OBTAIN AVAILABLE LANGUAGE TO PROVIDE FOR WEB BROWSER
S104
IS LANGUAGE REQUESTED BY USER AVAILABLE LANGUAGE TO PROVICE?
S105
NOT AVAILABLE
AVAILABLE
S106
OBTAIN OPERATION PANEL LANGUAGE
S107
SET OPERATION PNAEL LANGUAGE
S108
SET LANGUAGE INFORMATION TO URL PATH
END

FIG.34

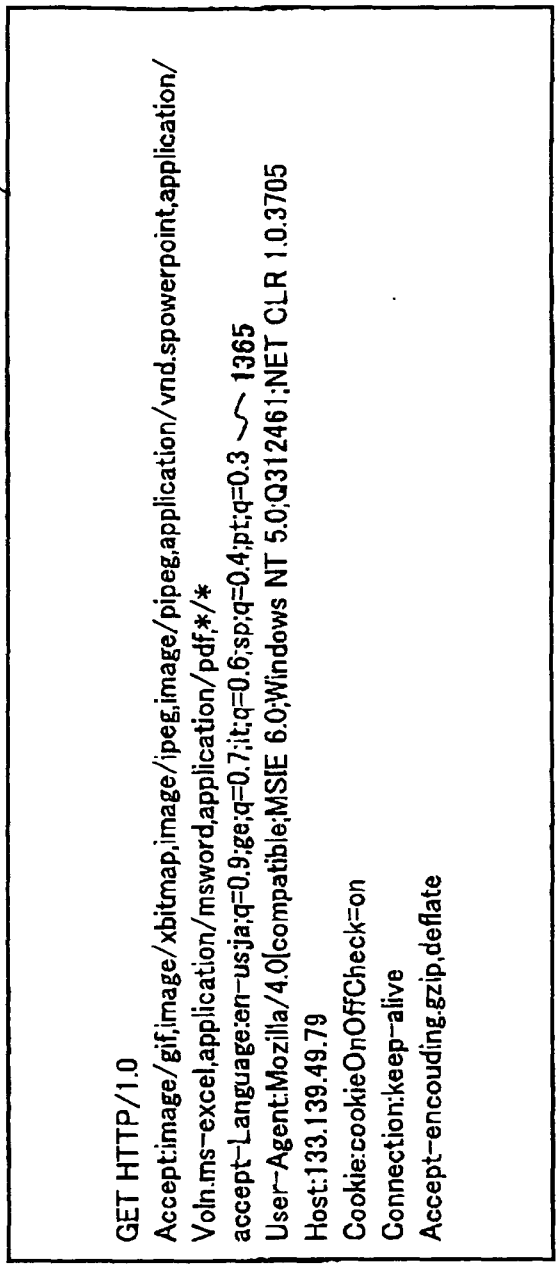

1360
GET HTTP/1.0
Accept:image/gif,image/xbitmap,image/jpeg,image/pjpeg,application/vnd.spowerpoint,application/
Voln.ms-excel,application/msword,application/pdf,*/*
accept-Language:en-us;ja;q=0.9;ge;q=0.7;it;q=0.6;sp;q=0.4;pt;q=0.3
1365
User-Agent:Mozilla/4.0(compatible;MSIE 6.0;Windows NT 5.0;Q312461;NET CLR 1.0.3705
Host:133.139.49.79
Cookie:cookieOnOffCheck=on
Connection:keep-alive
Accept-encouding.gzip,deflate

FIG.35A

1365

REQUEST PRIORITY NUMBER	WEB BROWSER LANGUAGE
1	ENGLISH
2	JAPANESE
3	GERMAN
4	ITALIAN
5	SPANISH
6	PORTUGUESE

FIG.35B

1122

AVAILABLE PRIORITY NUMBER	AVAILABLE LANGUAGE TO PROVIDE FOR WEB BROWSER
1	JAPANESE
2	ENGLISH
3	GERMAN
...	...

FIG.35C

ENGLISH	1123

FIG.36

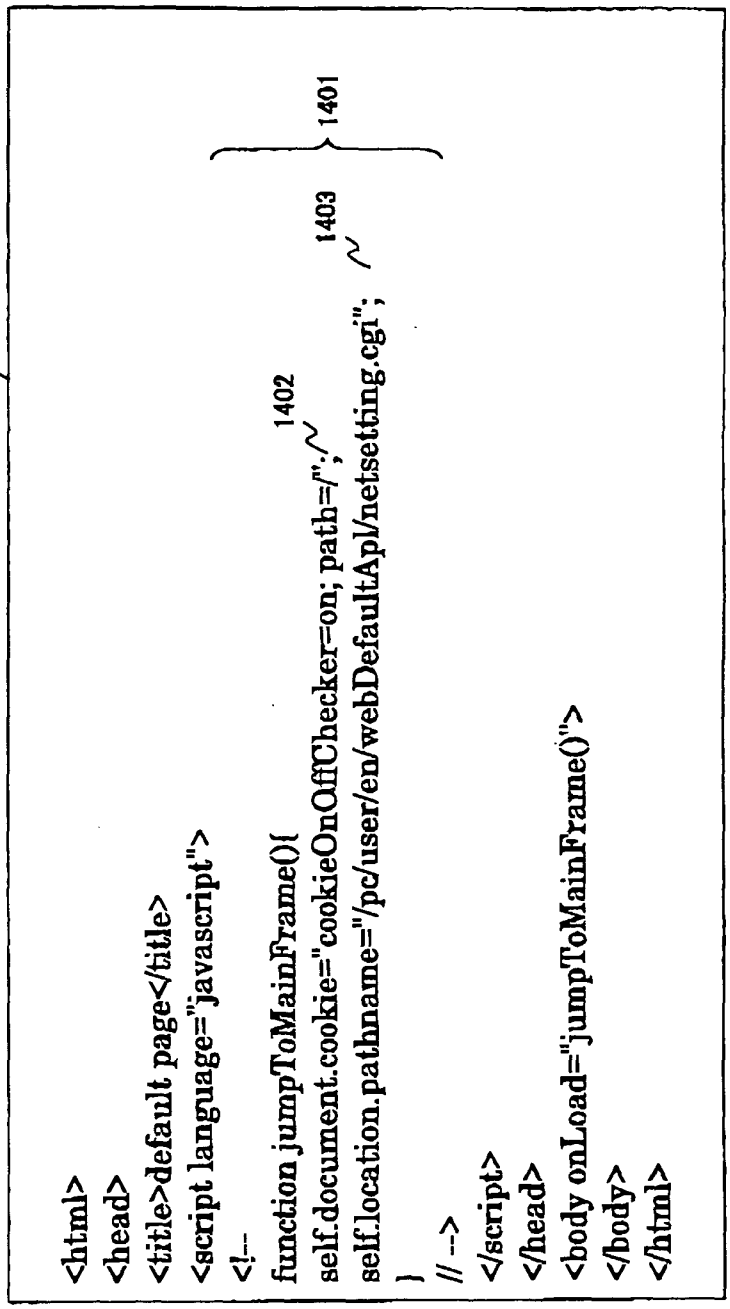

1400
<html>
<head>
<title>default page</title>
<script language="javascript">
<!--
function jumpToMainFrame(){
self.document.cookie="cookieOnOffChecker=on; path=/";
self.location.pathname="/pc/user/en/webDefaultApl/netsetting.cgi";
}
// -->
</script>
</head>
<body onLoad="jumpToMainFrame()">
</body>
</html>
1402
1403
1401

FIG.37

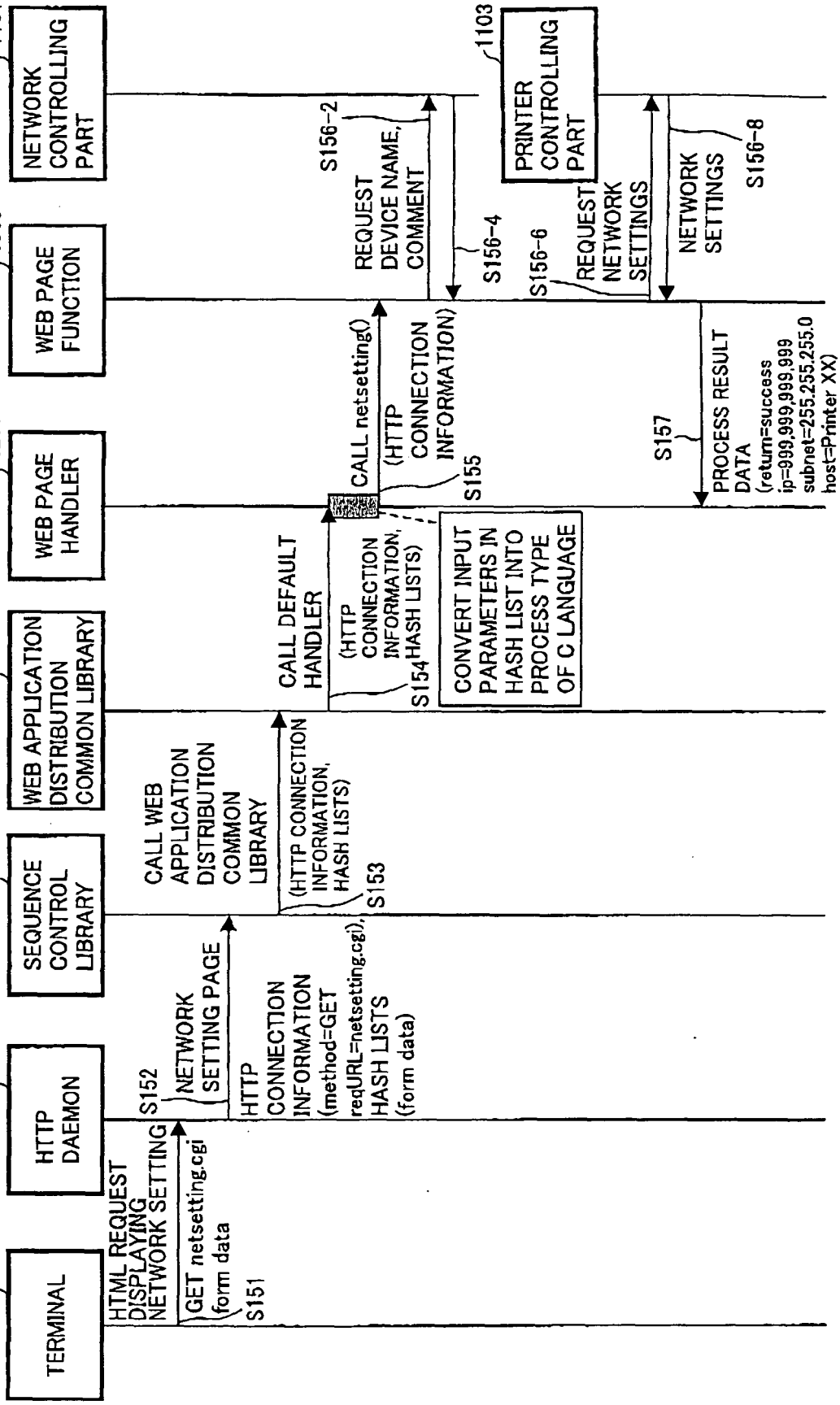

1040
TERMINAL
1002
HTTP DAEMON
1110
SEQUENCE CONTROL LIBRARY
1120
WEB APPLICATION DISTRIBUTION COMMON LIBRARY
1200
WEB PAGE HANDLER
1300
WEB PAGE FUNCTION
1101
NETWORK CONTROLLING PART
1103
PRINTER CONTROLLING PART
HTML REQUEST DISPLAYING NETWORK SETTING
GET netsetting.cgi form data
S151
S152
NETWORK SETTING PAGE
HTTP CONNECTION INFORMATION (method=GET reqURL=netsetting.cgi), HASH LISTS (form data)
CALL WEB APPLICATION DISTRIBUTION COMMON LIBRARY
(HTTP CONNECTION INFORMATION, HASH LISTS)
S153
CALL DEFAULT HANDLER
(HTTP CONNECTION INFORMATION, HASH LISTS)
S154
CONVERT INPUT PARAMETERS IN HASH LIST INTO PROCESS TYPE OF C LANGUAGE
CALL netsetting()
(HTTP CONNECTION INFORMATION)
S155
S156-2
REQUEST DEVICE NAME, COMMENT
S156-4
S156-6
REQUEST NETWORK SETTINGS
NETWORK SETTINGS
S156-8
S157
PROCESS RESULT DATA (return=success ip=999,999,999,999 subnet=255.255.255.0 host=Printer XX)

FIG.38

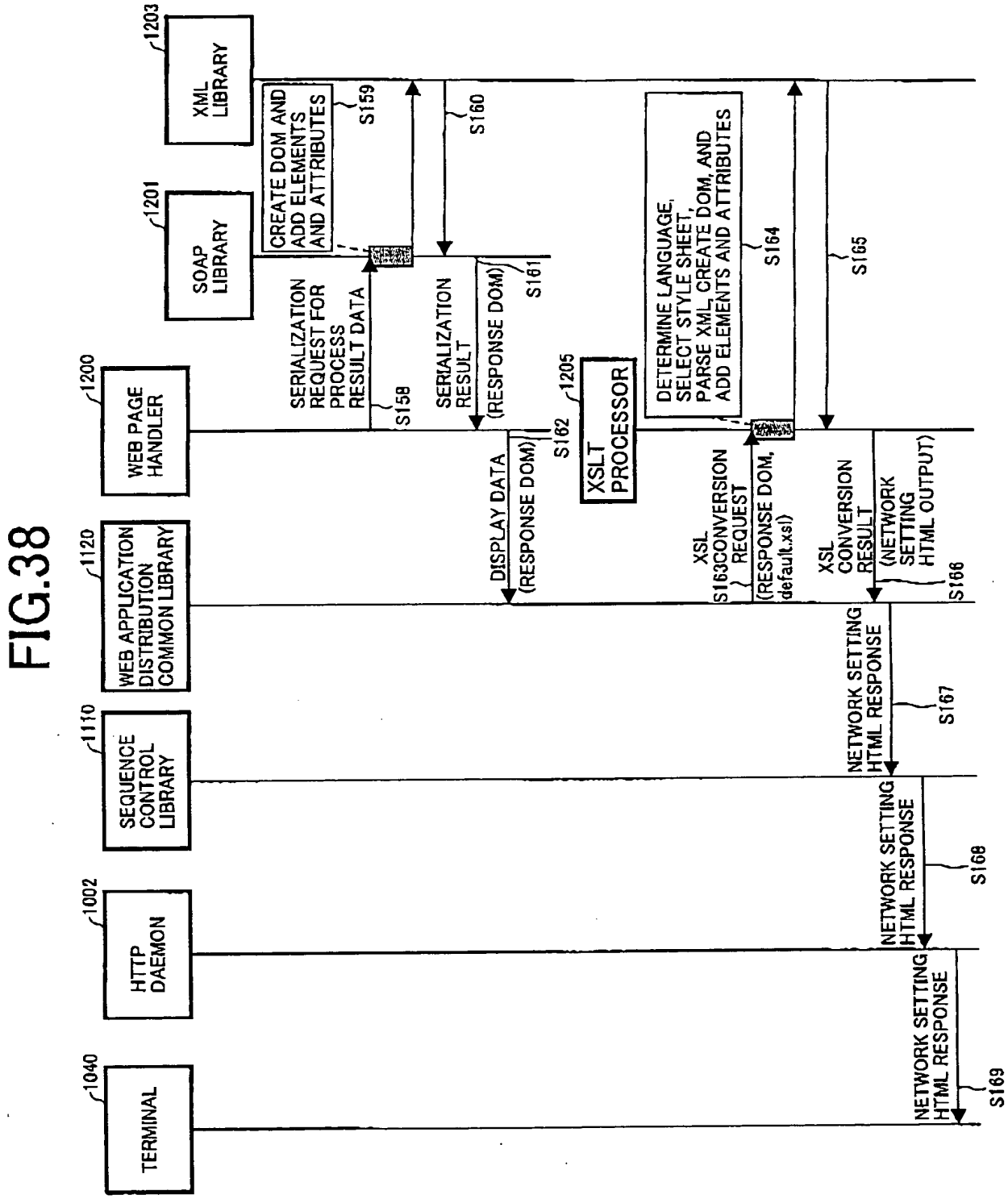

TERMINAL
1040
HTTP DAEMON
1002
SEQUENCE CONTROL LIBRARY
1110
WEB APPLICATION DISTRIBUTION COMMON LIBRARY
1120
WEB PAGE HANDLER
1200
SOAP LIBRARY
1201
XML LIBRARY
1203
XSLT PROCESSOR
1205
CREATE DOM AND ADD ELEMENTS AND ATTRIBUTES
S159
SERIALIZATION REQUEST FOR PROCESS RESULT DATA
S158
SERIALIZATION RESULT (RESPONSE DOM)
S160
S161
DISPLAY DATA (RESPONSE DOM)
S162
DETERMINE LANGUAGE, SELECT STYLE SHEET, PARSE XML, CREATE DOM, AND ADD ELEMENTS AND ATTRIBUTES
S164
XSL S163CONVERSION REQUEST (RESPONSE DOM, default.xsl)
XSL CONVERSION RESULT (NETWORK SETTING HTML OUTPUT)
S165
S166
NETWORK SETTING HTML RESPONSE
S167
NETWORK SETTING HTML RESPONSE
S168
NETWORK SETTING HTML RESPONSE
S169

FIG.39

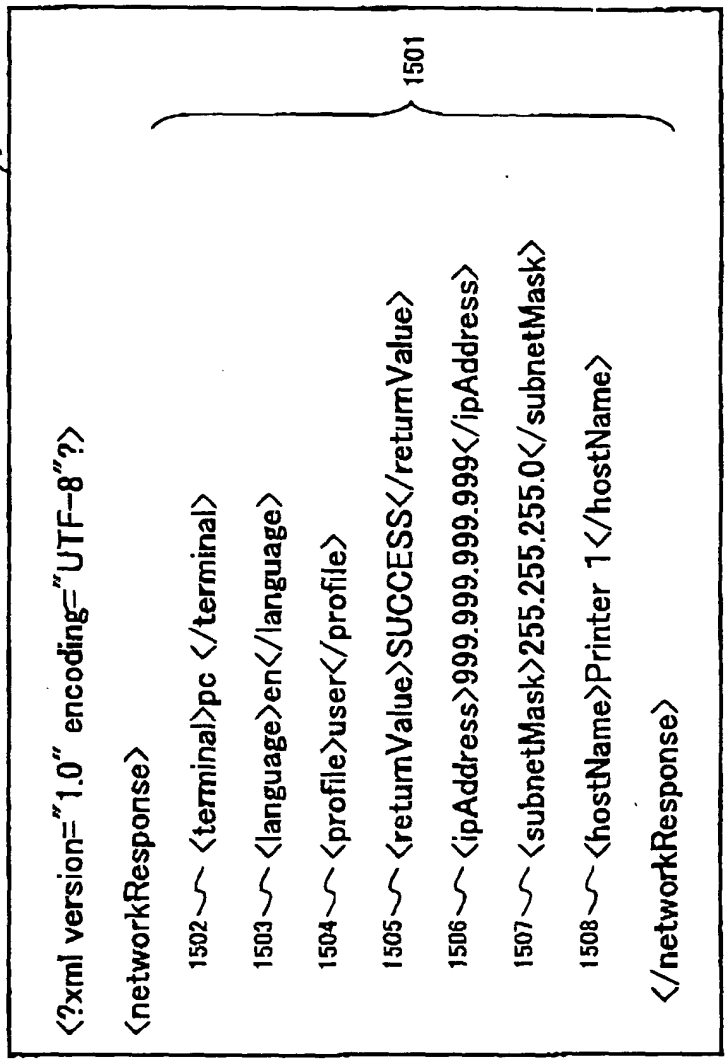
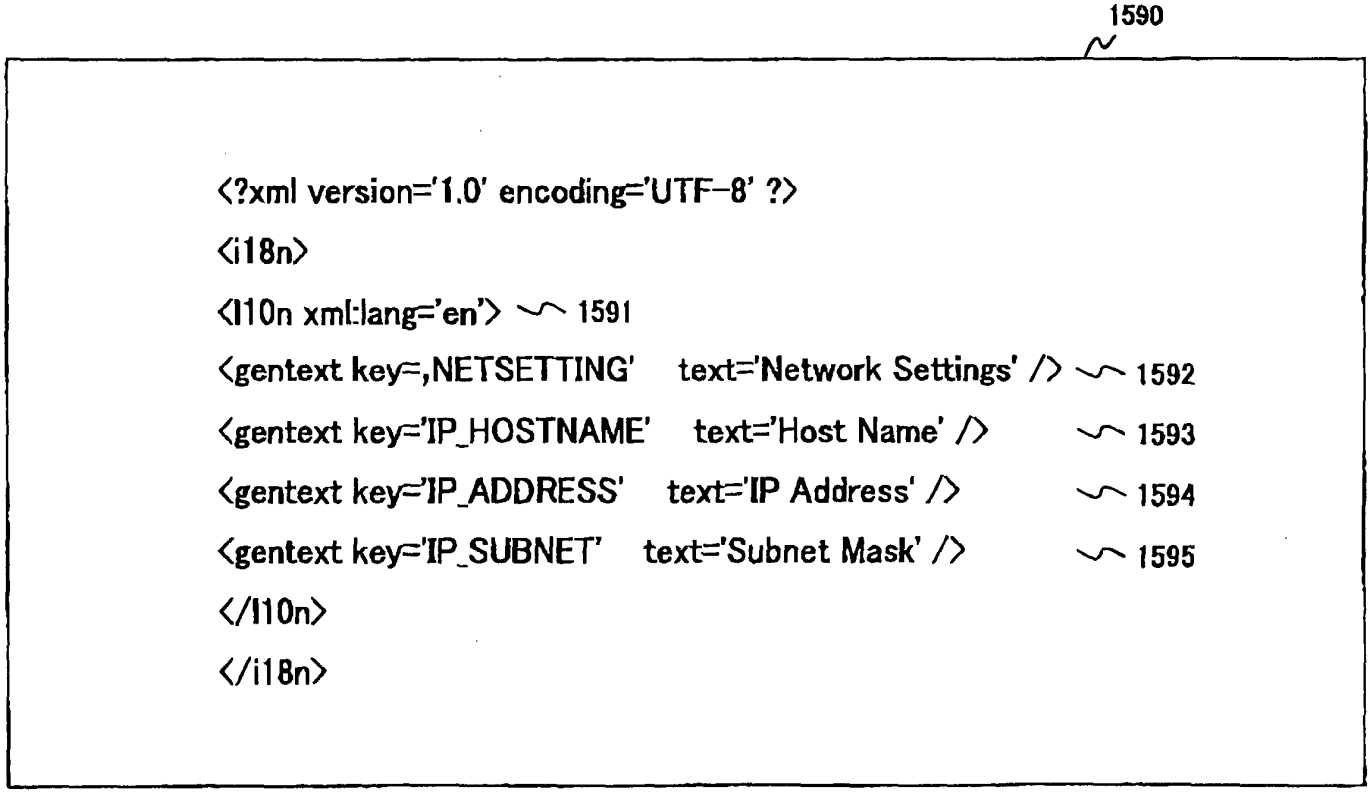

1500
<?xml version="1.0" encoding="UTF-8"?>
<networkResponse>
1502 <terminal>pc </terminal>
1503 <language>en</language>
1504 <profile>user</profile>
1505 <returnValue>SUCCESS</returnValue>
1506 <ipAddress>999.999.999.999</ipAddress>
1507 <subnetMask>255.255.255.0</subnetMask>
1508 <hostName>Printer 1</hostName>
</networkResponse>
1501

FIG.40



OBLON, SPIVAK, ET AL
DOCKET #: 240620US2
INV: Seiji TAKAHASHI, et al.
SHEET 40 OF 59

FIG.41

```
<?xml version="1.0" encoding="UTF-8"?>
<xsl:stylesheetxmlns:xsl="http://www.w3.org/1999/XSL/Transform"
xmlns:sf="http://www.ricoh.co.jp/xmlns/xslt/rdh/common" version="1.0">

<xsl:param name="langTable">
    <xsl:value-of select="concat(normalize-space
        (//language),'/resource_',normalize-space(//language),'.xml')"/>
</xsl:param>
    <xsl:param name="L10N_LANG">
        <xsl:value-of select="normalize-space(//language)"/>
</xsl:param>

<xsl:template name="generatetext">
    <xsl:param name="key"/>
    <xsl:param name="text">
        <xsl:value-of select="document($langTable)/i18n/l10n[@xml:lang =
                              L10N_LANG]/gentext[@key = $key]/@text"/>
</xsl:param>
</xsl:template>

<xsl:output method="html" encoding="UTF-8"/>

    <xsl:template match="/">
        <html>
            <xsl:attribute name="lang">
            <xsl:value-of select="//language"/>
            </xsl:attribute>
            <body>
                <xsl:apply-templates/>
            </body>
        </html>
    </xsl:template>
```

1430

1433

1435

1437

1438

OBLON, SPIVAK, ET AL
DOCKET #: 240620US2
INV: Seiji TAKAHASHI, et al.
SHEET 41 OF 59

FIG.42

```
<!— Templates for body —>
<xsl:template match="networkResponse">                                    1441

    <p><b><font size="4">
        <xsl:call-template name="sf:StringHandler">                       1443
            <xsl:with-param name="id" select="NETSETTING"/>
        </xsl:call-template>
    </font></b></p>

    <!— Displays host name —>
        <xsl:call-template name="staticValue">
            <xsl:with-param name="titleText">IP_HOSTNAME</xsl:with-param>
            <xsl:with-param name="target">sysName</xsl:with-param>
        </xsl:call-template>

        <xsl:call-template name="staticValue">                            1445
            <xsl:with-param name="titleText">IP_ADDRESS</xsl:with-param>
            <xsl:with-param name="target">comment</xsl:with-param>
        </xsl:call-template>
            .....
        </xsl:template>
```

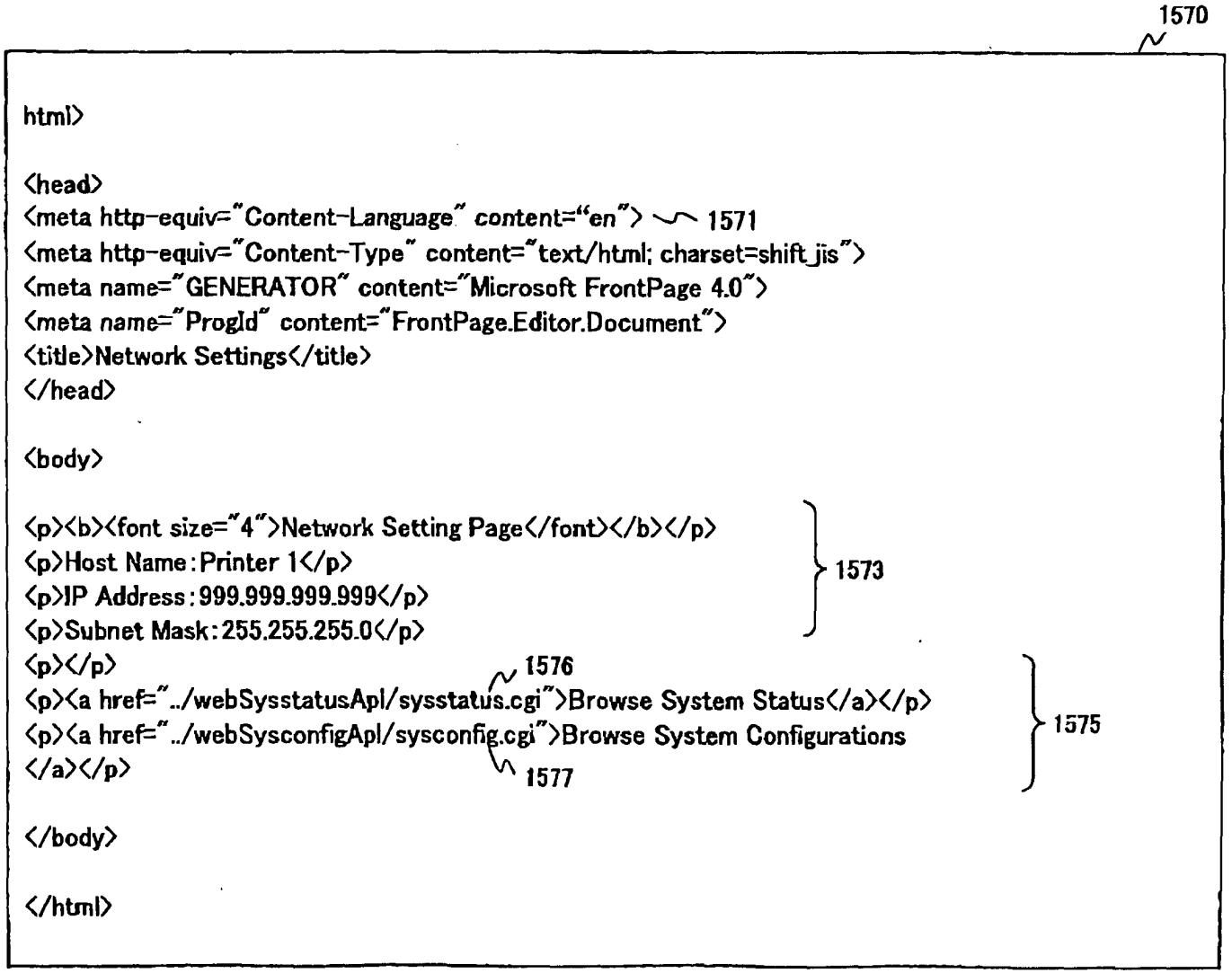
OBLON, SPIVAK, ET AL
DOCKET #: 240620US2
INV: Seiji TAKAHASHI, et al.
SHEET 42 OF 59

FIG.43

```
<xsl:template name="staticValue">~ 1451
    <xsl:param name="titleText" />
    <xsl:param name="target" />

    <tr class="editProp">
        <td nowrap="nowrap" align="left">
            <xsl:if test="$titleText!=''">
                <xsl:call-template name="sf:StringHandler">
                    <xsl:with-param name="id" select="$titleText" />
                </xsl:call-template>
            </xsl:if>
        </td>
        <td nowrap="nowrap">
            <xsl:value-of select="*[name()=$target]/text()" />
        </td>
    </tr>
</xsl:template>~ 1460

<xsl:template name="sf:StringHandler">~ 1471
<xsl:param name="id" />
    <xsl:call-template name="generatetext">
        <xsl:with-param name="key">
        <xsl:value-of select="$id" />
    </xsl:with-param>
</xsl:call-template>~ 1480
</xsl:styleshe t>
```

OBLON, SPIVAK, ET AL
DOCKET #: 240620US2
INV: Seiji TAKAHASHI, et al.
SHEET 43 OF 59

FIG.44



OBLON, SPIVAK, ET AL
DOCKET #: 240620US2
INV: Seiji TAKAHASHI, et al.
SHEET 44 OF 59

FIG.45

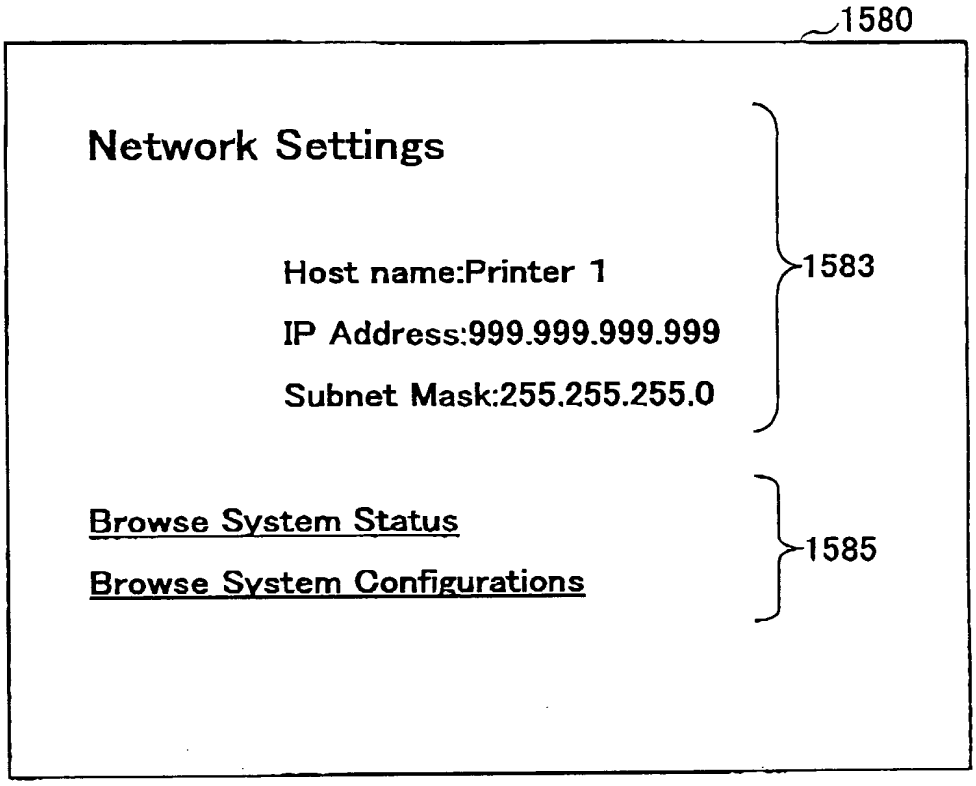

1580
Network Settings
Host name:Printer 1
IP Address:999.999.999.999
Subnet Mask:255.255.255.0
1583
Browse System Status
Browse System Configurations
1585

FIG.46

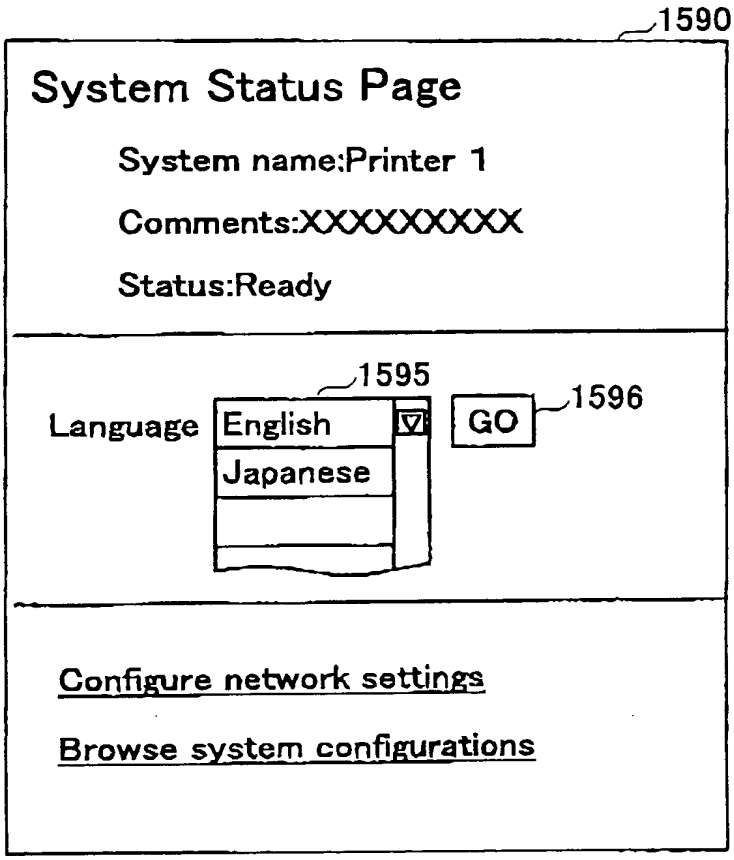

1590
System Status Page
System name:Printer 1
Comments:XXXXXXXXX
Status:Ready
1595
Language
English
Japanese
GO
1596
Configure network settings
Browse system configurations

FIG.47

1670

```
<html>

<head>
<meta http-equiv="Content-Language" content="ja">                    1671
<meta http-equiv="Content-Type" content="text/html; charset=shift_jis">
<meta name="GENERATOR" content="Microsoft FrontPage 4.0">
<meta name="ProgId" content="FrontPage.Editor.Document">
<title>システムのステータスページ</title>
</head>


<body>


<p><b><front size="4">システムのステータスページ</font></b></p>
<p>システム名:Printer1</p>                                            1673
<p>コメント:XXXXXXXXX</p>
<p>システムの状態:正常</p>
<p></p>
<p>表示言語<SELECT>
<OPTION VALUE="jp">日本語</OPTION>                                    1674
<OPTION VALUE="en">英語</OPTION>
<OPTION VALUE="fr">フランス語</OPTION>
<INPUT type="submit" value="決定">
</p>
<p><a href="../webSysstatusApl/sysstatus.cgi">ネットワーク設定のページ</a></p>   1675
<p><a href="../webSysconfigApl/sysconfig.cgi">機器構成情報ページ</a></p>
</a></p>


</body>

</html>
```

FIG.48

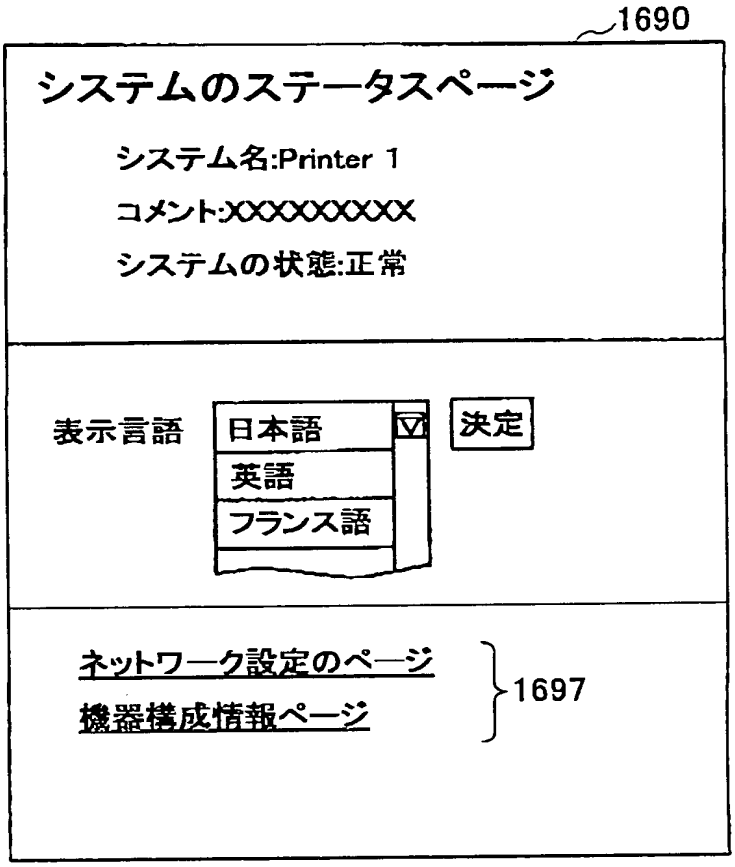

1690
システムのステータスページ
システム名:Printer 1
コメント:XXXXXXXXX
システムの状態:正常
表示言語
日本語
英語
フランス語
決定
ネットワーク設定のページ
機器構成情報ページ
1697

FIG.49

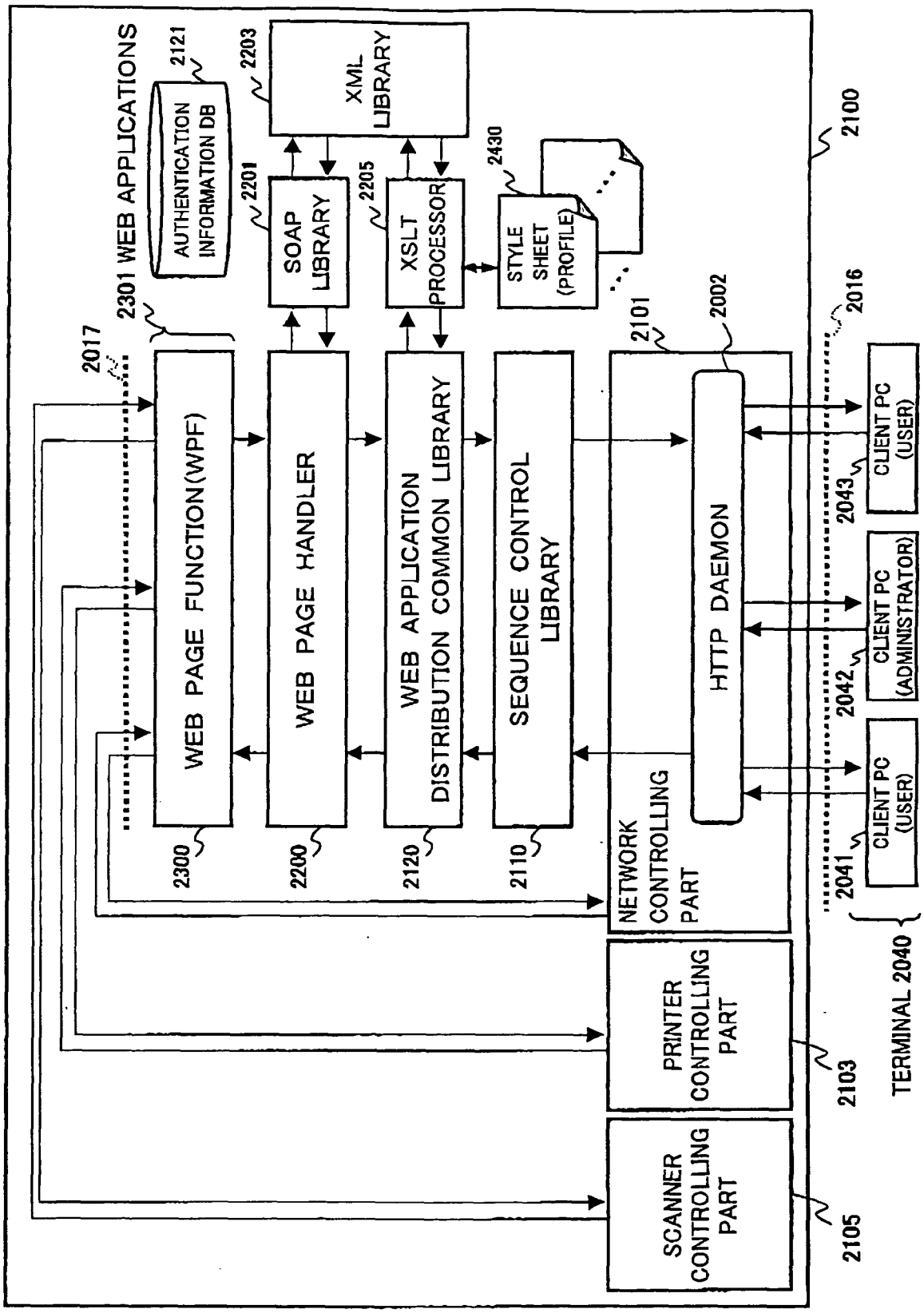

2100
2301 WEB APPLICATIONS
2121
AUTHENTICATION INFORMATION DB
2203
XML LIBRARY
2201
SOAP LIBRARY
2205
XSLT PROCESSOR
2430
STYLE SHEET (PROFILE)
2017
2101
2002
2016
WEB PAGE FUNCTION(WPF)
WEB PAGE HANDLER
WEB APPLICATION DISTRIBUTION COMMON LIBRARY
SEQUENCE CONTROL LIBRARY
NETWORK CONTROLLING PART
HTTP DAEMON
2300
2200
2120
2110
CLIENT PC (USER)
2043
CLIENT PC (ADMINISTRATOR)
2042
CLIENT PC (USER)
2041
TERMINAL 2040
PRINTER CONTROLLING PART
2103
SCANNER CONTROLLING PART
2105

FIG.50

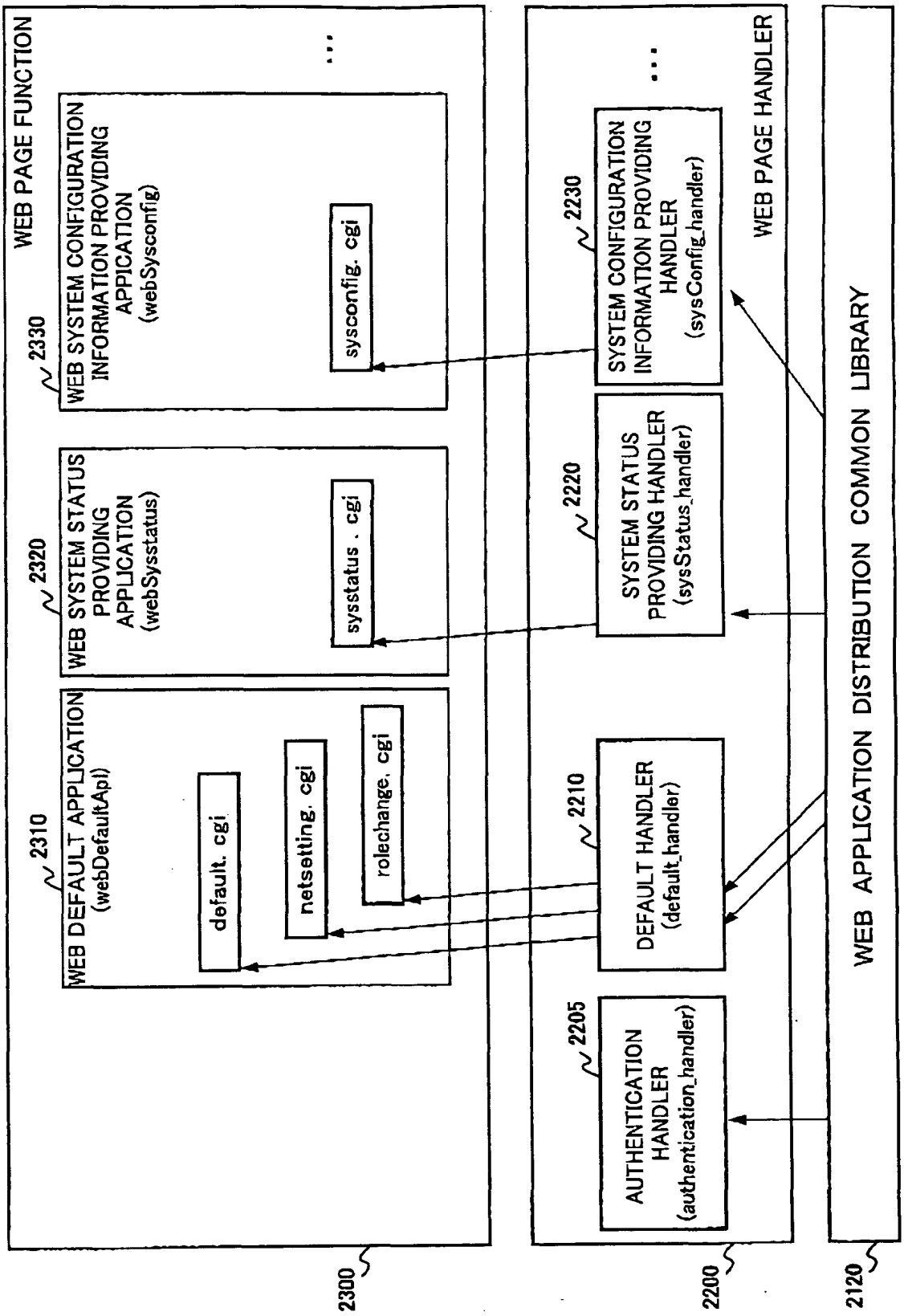

WEB PAGE FUNCTION
2330
WEB SYSTEM CONFIGURATION INFORMATION PROVIDING APPLICATION (webSysconfig)
sysconfig. cgi
2320
WEB SYSTEM STATUS PROVIDING APPLICATION (webSysstatus)
sysstatus . cgi
2310
WEB DEFAULT APPLICATION (webDefaultApl)
default. cgi
netsetting. cgi
rolechange. cgi
2300
WEB PAGE HANDLER
2230
SYSTEM CONFIGURATION INFORMATION PROVIDING HANDLER (sysConfig_handler)
2220
SYSTEM STATUS PROVIDING HANDLER (sysStatus_handler)
2210
DEFAULT HANDLER (default_handler)
2205
AUTHENTICATION HANDLER (authentication_handler)
2200
WEB APPLICATION DISTRIBUTION COMMON LIBRARY
2120

FIG.51

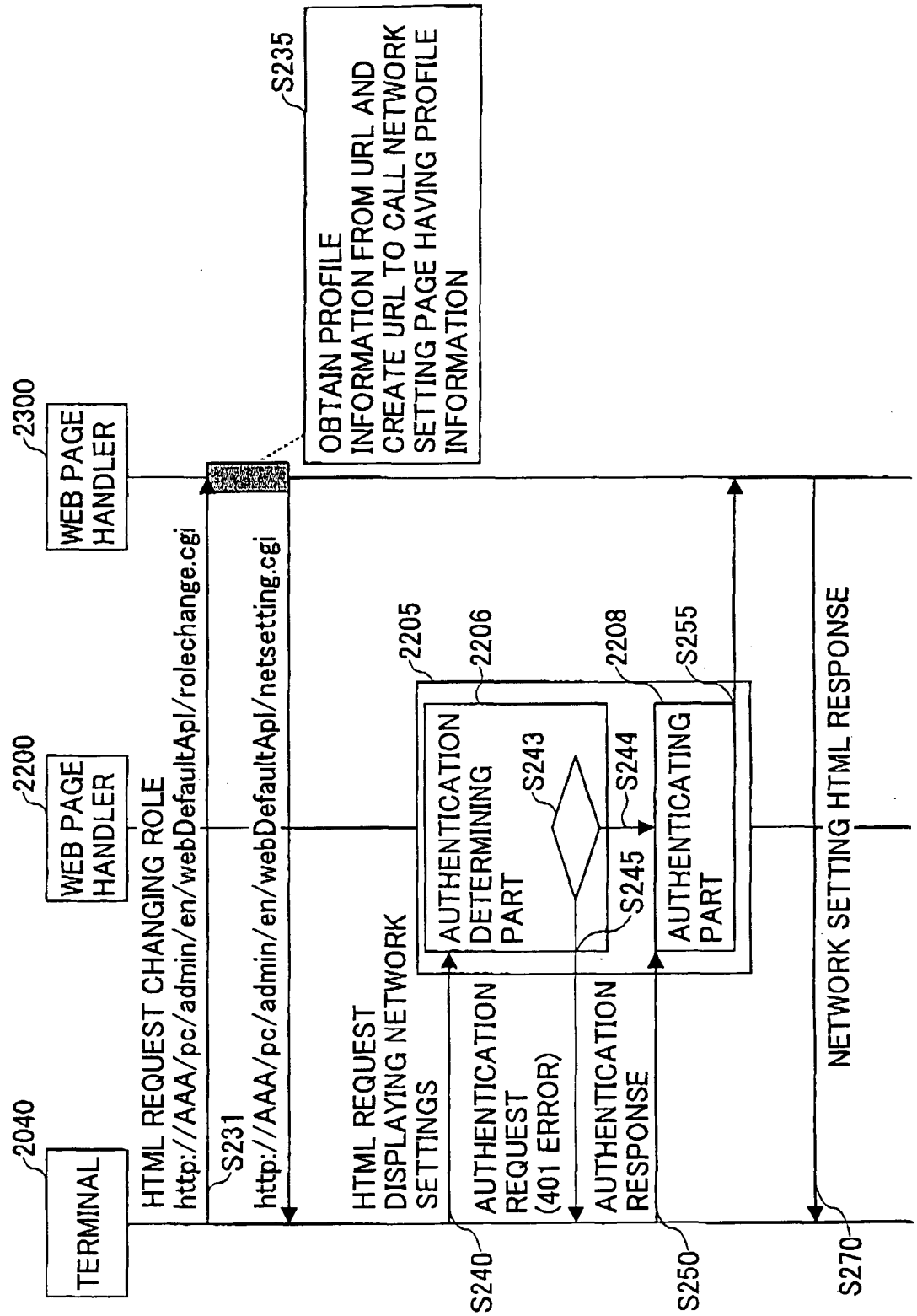

2040
TERMINAL
2200
WEB PAGE HANDLER
2300
WEB PAGE HANDLER
HTML REQUEST CHANGING ROLE
http://AAA/pc/admin/en/webDefaultApl/rolechange.cgi
S231
http://AAA/pc/admin/en/webDefaultApl/netsetting.cgi
S235
OBTAIN PROFILE INFORMATION FROM URL AND CREATE URL TO CALL NETWORK SETTING PAGE HAVING PROFILE INFORMATION
HTML REQUEST DISPLAYING NETWORK SETTINGS
S240
2205
AUTHENTICATION DETERMINING PART
2206
S243
S244
S245
AUTHENTICATION REQUEST (401 ERROR)
2208
AUTHENTICATING PART
S255
AUTHENTICATION RESPONSE
S250
NETWORK SETTING HTML RESPONSE
S270

FIG.52

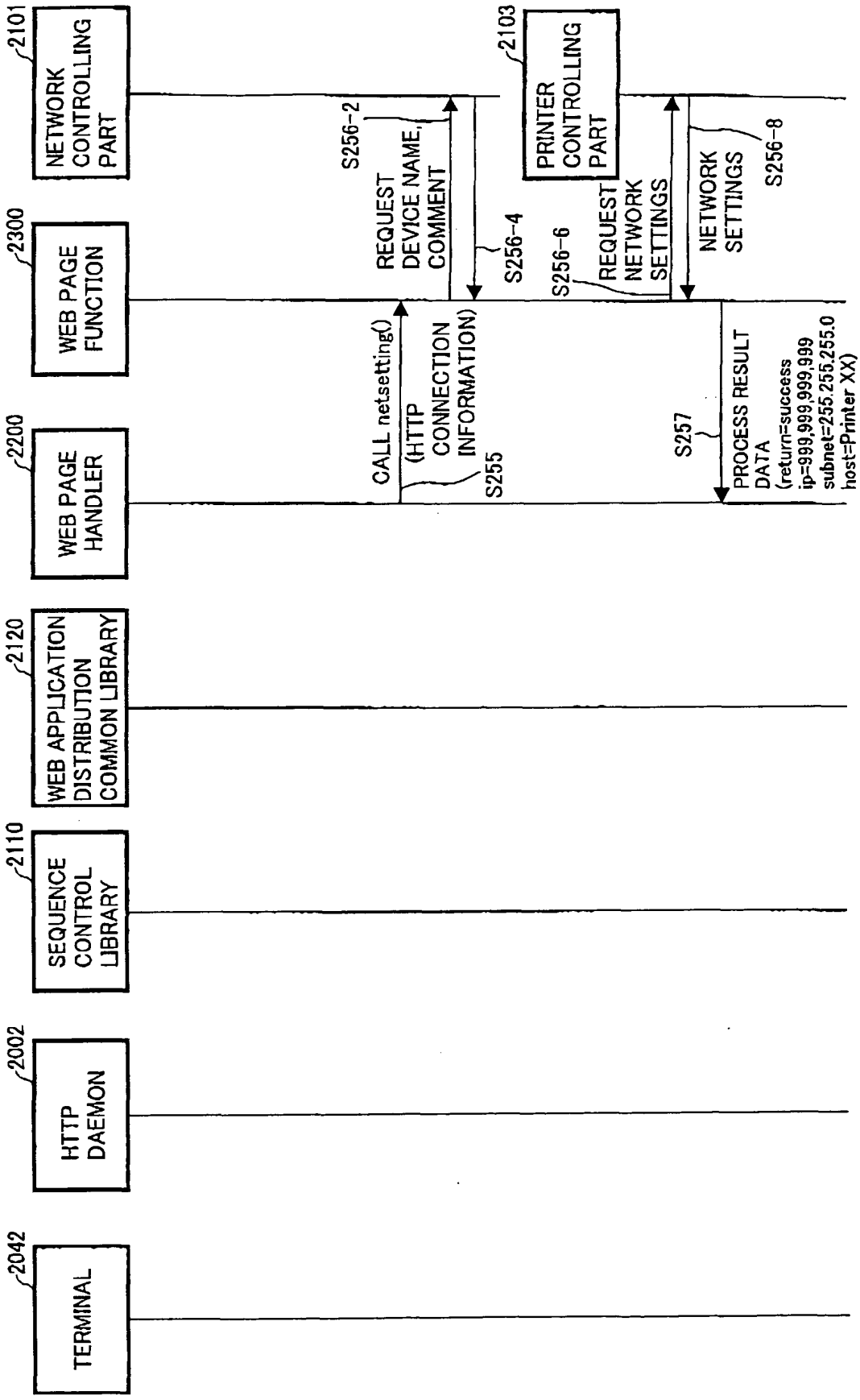

2042
TERMINAL
2002
HTTP DAEMON
2110
SEQUENCE CONTROL LIBRARY
2120
WEB APPLICATION DISTRIBUTION COMMON LIBRARY
2200
WEB PAGE HANDLER
2300
WEB PAGE FUNCTION
2101
NETWORK CONTROLLING PART
2103
PRINTER CONTROLLING PART
CALL netsetting()
(HTTP CONNECTION INFORMATION)
S255
S256-2
REQUEST DEVICE NAME, COMMENT
S256-4
S256-6
REQUEST NETWORK SETTINGS
NETWORK SETTINGS
S256-8
S257
PROCESS RESULT DATA
(return=success
ip=999,999,999,999
subnet=255.255.255.0
host=Printer XX)

FIG.53

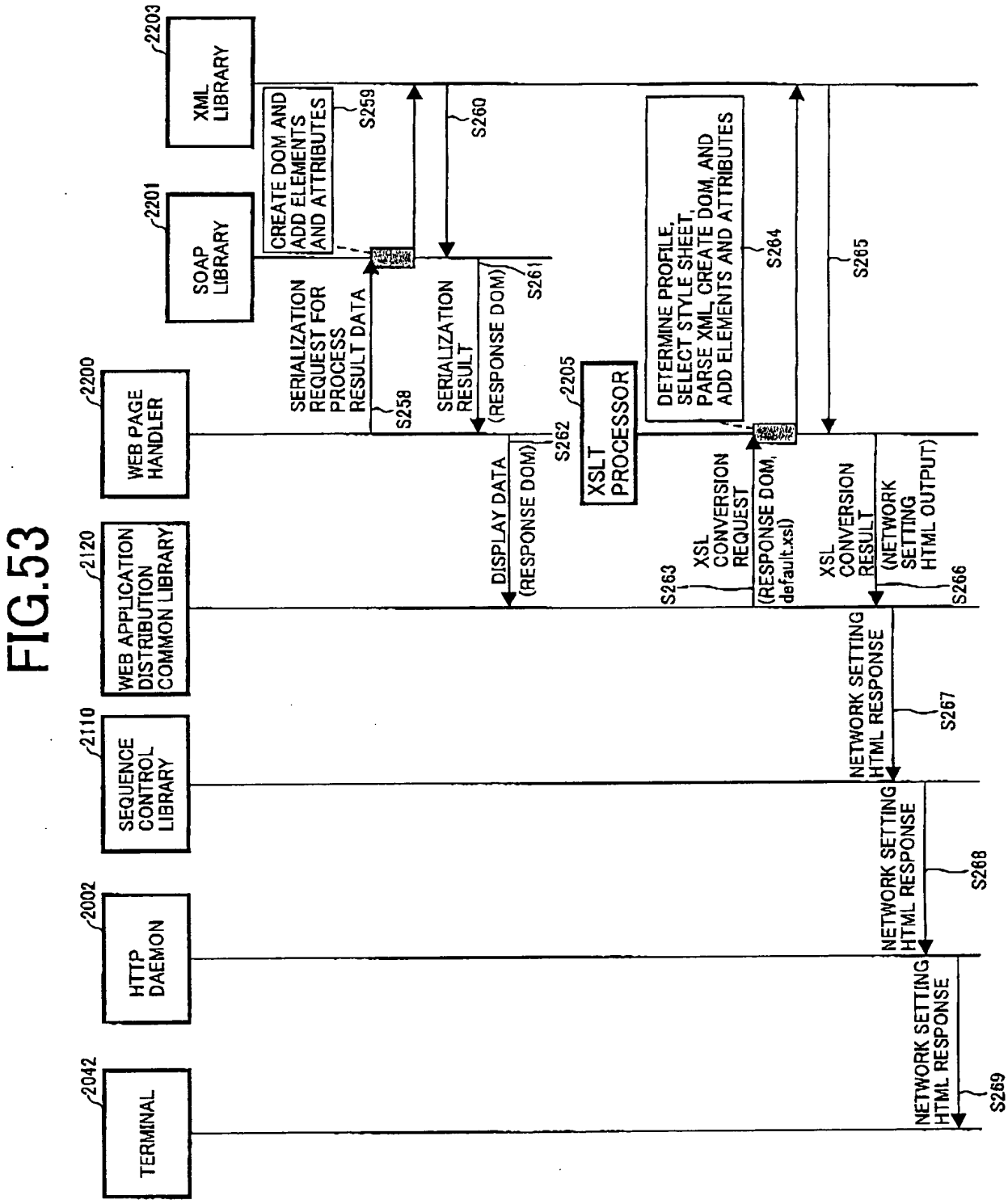
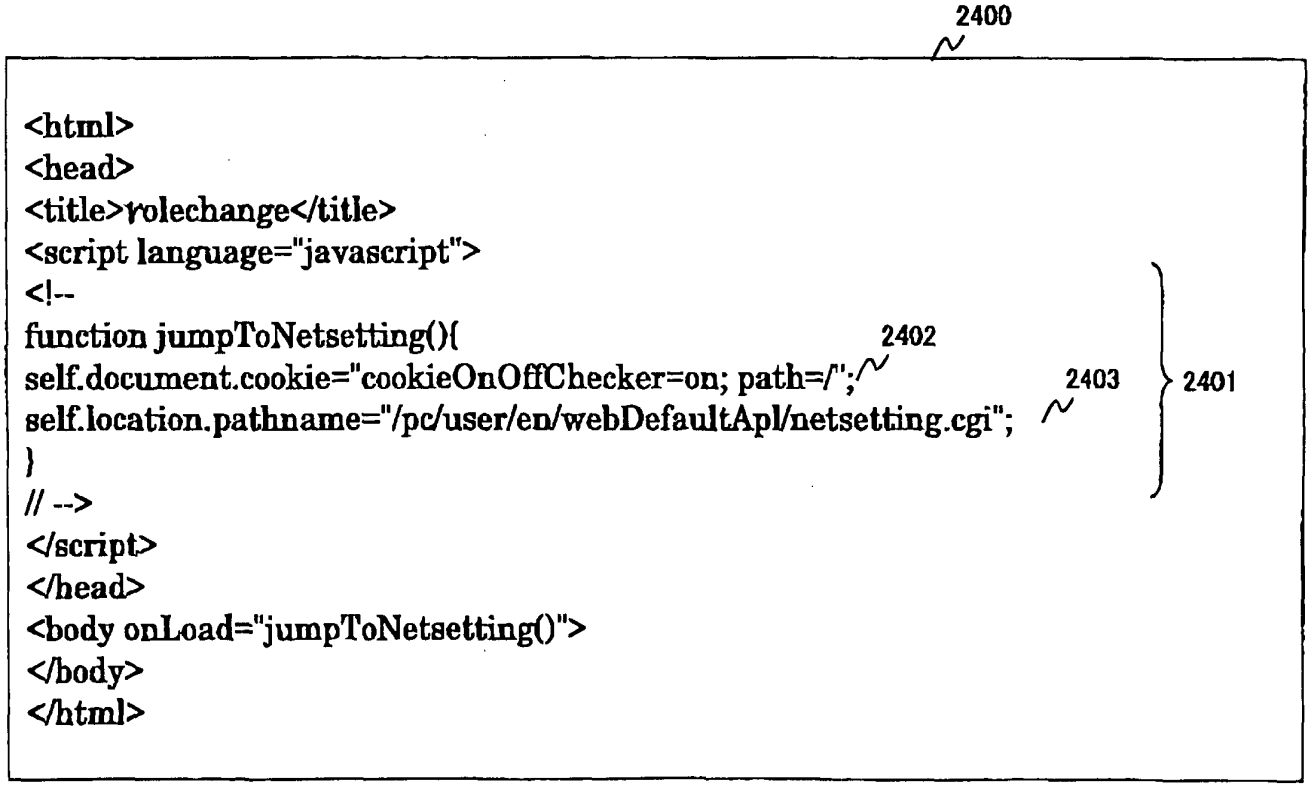

2203
XML LIBRARY
2201
SOAP LIBRARY
2200
WEB PAGE HANDLER
2120
WEB APPLICATION DISTRIBUTION COMMON LIBRARY
2110
SEQUENCE CONTROL LIBRARY
2002
HTTP DAEMON
2042
TERMINAL
CREATE DOM AND ADD ELEMENTS AND ATTRIBUTES
S259
S260
SERIALIZATION REQUEST FOR PROCESS RESULT DATA
S258
SERIALIZATION RESULT
(RESPONSE DOM)
S261
2205
XSLT PROCESSOR
DETERMINE PROFILE, SELECT STYLE SHEET, PARSE XML, CREATE DOM, AND ADD ELEMENTS AND ATTRIBUTES
S264
S265
DISPLAY DATA
(RESPONSE DOM)
S262
S263
XSL CONVERSION REQUEST
(RESPONSE DOM, default.xsl)
XSL CONVERSION RESULT
(NETWORK SETTING HTML OUTPUT)
S266
NETWORK SETTING HTML RESPONSE
S267
NETWORK SETTING HTML RESPONSE
S268
NETWORK SETTING HTML RESPONSE
S269

FIG.54

PROFILE INFORMATION	PROFILE
user	REGULAR USER
admin	SYSTEM ADMINISTRATOR
service	SERVICE PERSON
...	...

FIG.55



OBLON, SPIVAK, ET AL
DOCKET #: 240620US2
INV: Seiji TAKAHASHI, et al.
SHEET 55 OF 59

FIG.56

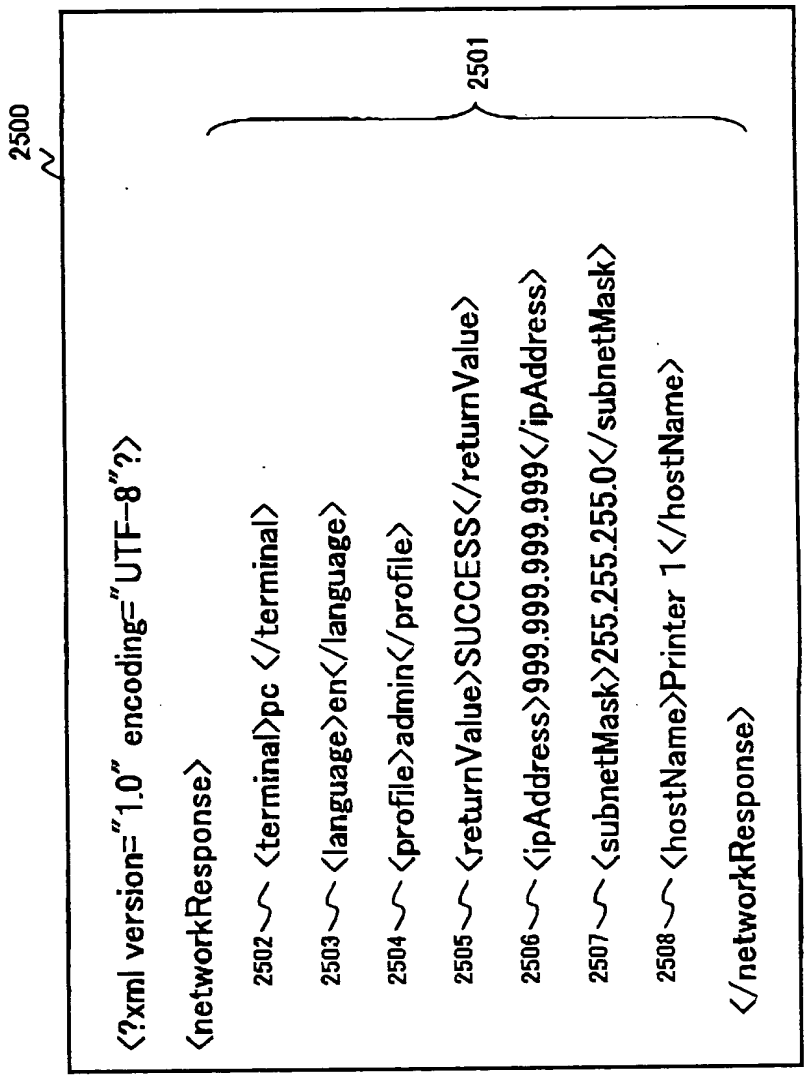
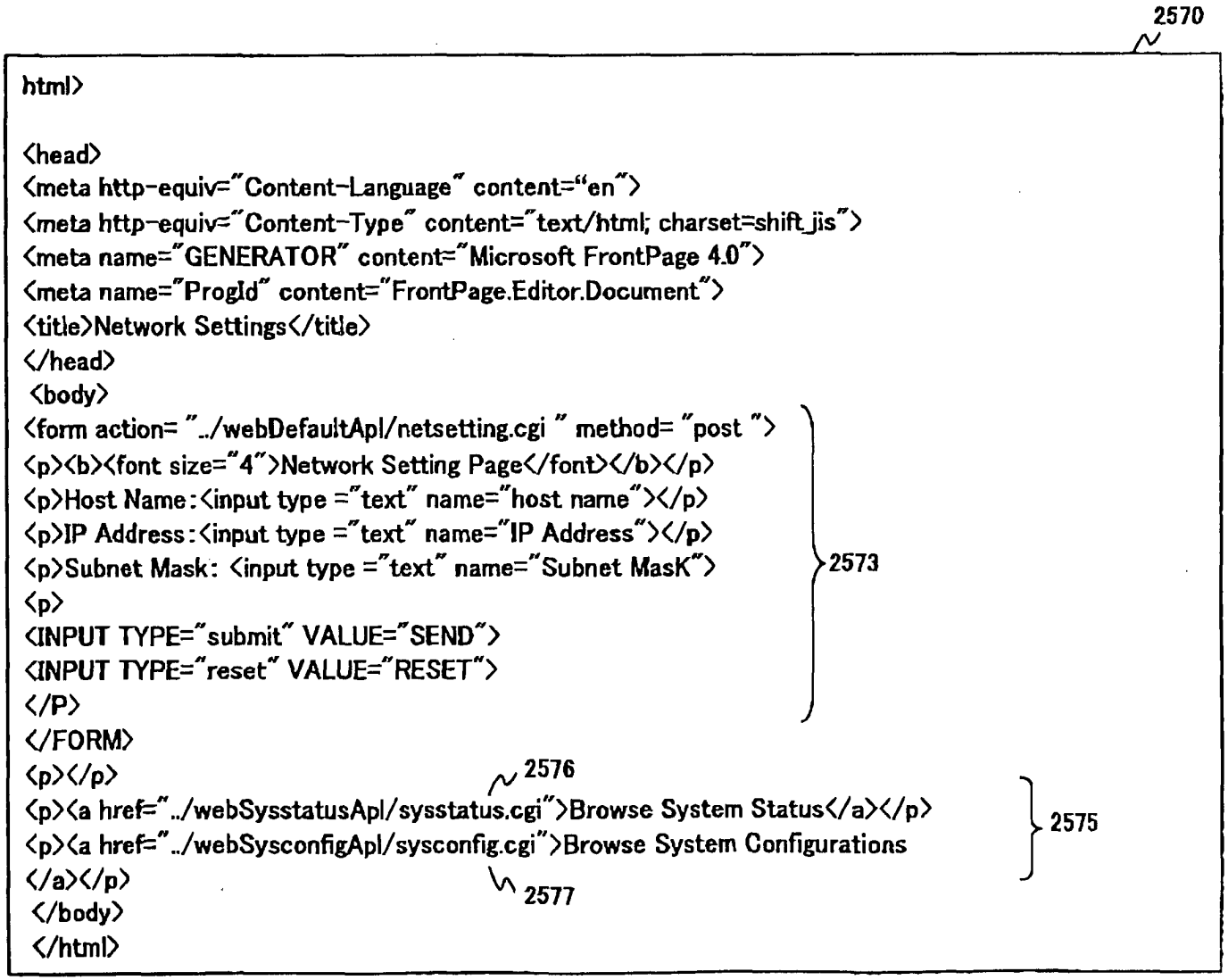

2500
<?xml version="1.0" encoding="UTF-8"?>
<networkResponse>
2502 <terminal>pc </terminal>
2503 <language>en</language>
2504 <profile>admin</profile>
2505 <returnValue>SUCCESS</returnValue>
2506 <ipAddress>999.999.999.999</ipAddress>
2507 <subnetMask>255.255.255.0</subnetMask>
2508 <hostName>Printer 1</hostName>
</networkResponse>
2501

FIG.57

2430

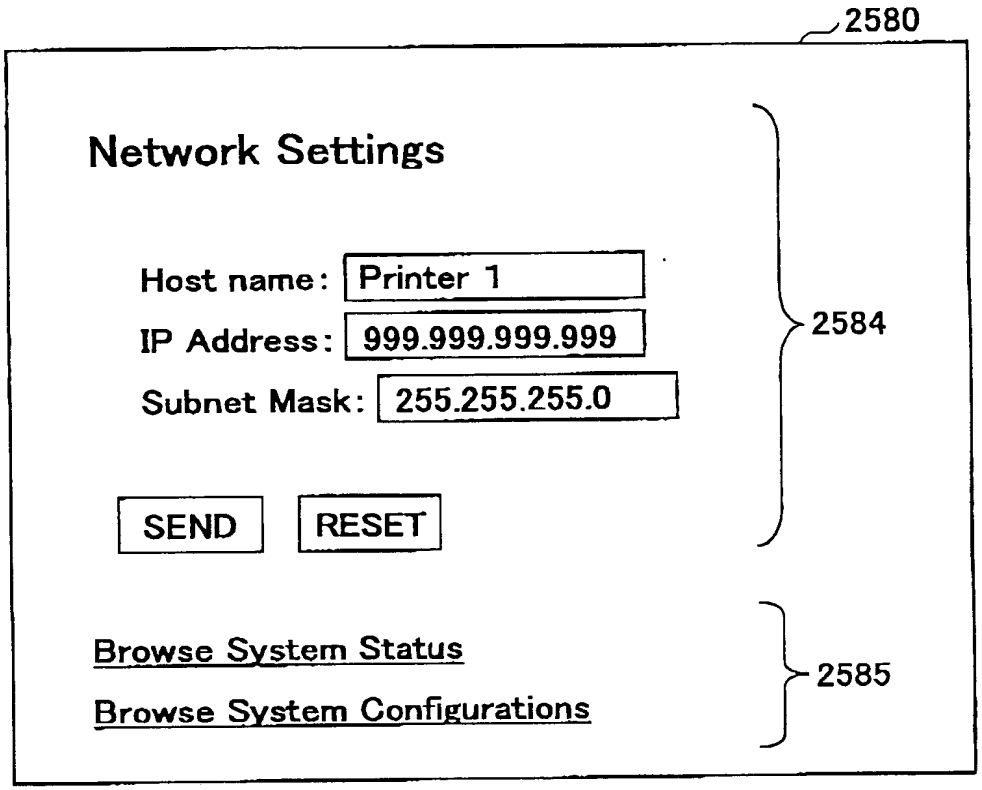
```
<?xml version="1.0" encoding="UTF-8" ?>
<xsl:stylesheet xmlns:xsl="http://www.w3.org/1999/XSL/Transform"
  xmlns:sf="http:// www.rrrr.co.jp /xmlns/xslt/rdh/common" version="1.0">
  <xsl:output method="html" encoding="UTF-8" />
  <xsl:template match="/">
    <html>
      <body>
        <xsl:apply-templates />
      </body>
    </html>
  </xsl:template>
  <!-- Templates for body -->
  <xsl:template match="networkResponse">
    <!-- Display the page title -->
    <xsl:call-template name="statusTitle4CommonProfile" />
    <!-- Check current profile (admin or user) and call suitable
    template -->
    <xsl:choose>
    - <xsl:when test="contains(//urlProfile, 'admin')">          2431
        <xsl:call-template name="networkResponse4Admin" />       2432
      </xsl:when>
    - <xsl:otherwise>
        <xsl:call-template name="networkResponse4User" />        2433
      </xsl:otherwise>
    </xsl:choose>
  </xsl:template>
  <xsl:template name="networkTitle4CommonProfile">
    <!— OMISSION —>
  </xsl:template>
  <!— FOR ADMINSTRATOR (ALLOWED TO SET) —>
  <xsl:template name="networkResponse4Admin">
    <!— OMISSION —>                                              2434
  </xsl:template>
  <!— FOR REGULAR USER (REFERENCE ONLY) —>
  <xsl:template name="networkTitle4User">
    <!— OMISSION —>                                              2435
  </xsl:template>
</xsl:stylesheet>
```

FIG.58



OBLON, SPIVAK, ET AL.
DOCKET #: 240620US2
INV: Seiji TAKAHASHI, et al.
SHEET 58 OF 59

FIG.59


2580
Network Settings
Host name: Printer 1
IP Address: 999.999.999.999
Subnet Mask: 255.255.255.0
2584
SEND
RESET
Browse System Status
Browse System Configurations
2585